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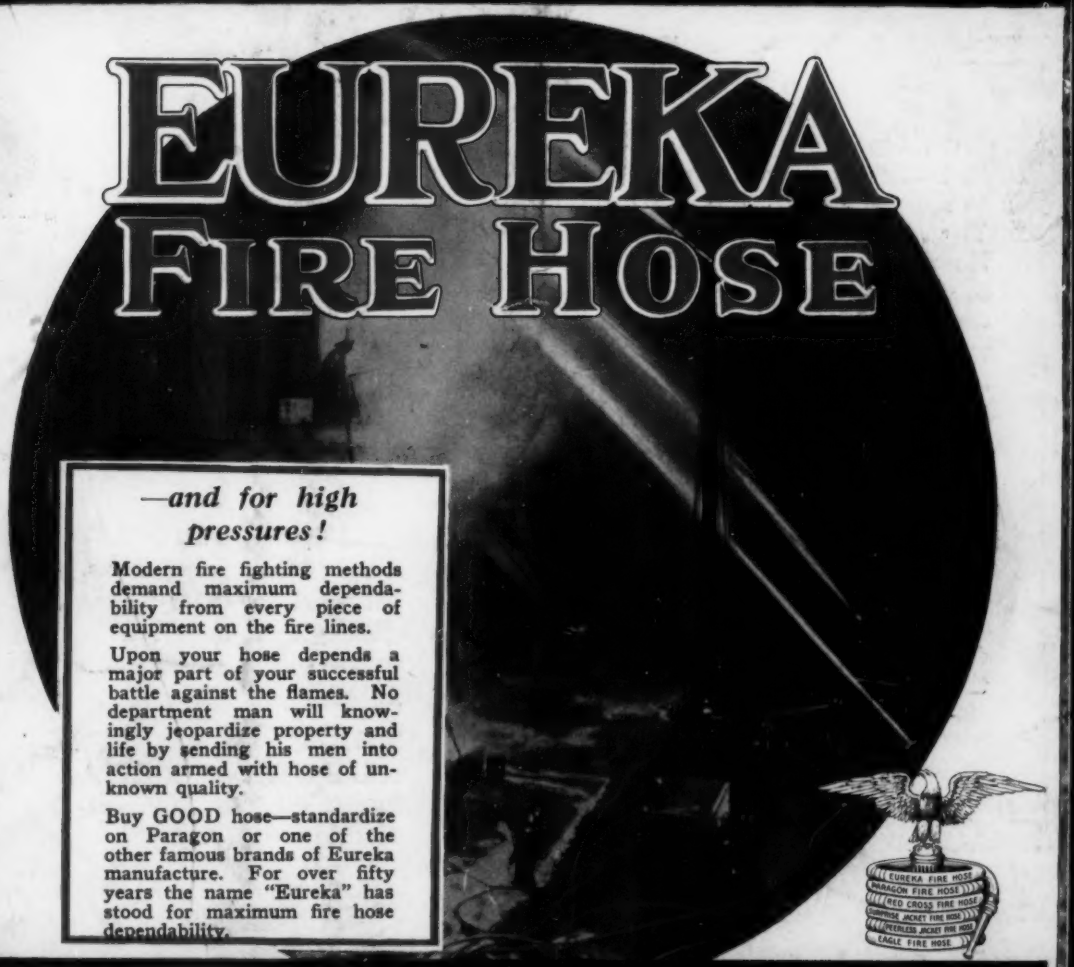
FIRE ENGINEERING

A Consolidation of
FIRE AND WATER ENGINEERING *and* THE FIRE ENGINEER

JULY 10, 1926

654-1339



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No. 16 *of a series of experiences of our noted Fire Chiefs*

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Chief of Fire Department
Terre Haute, Ind.

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FRANK H. MILLER
Fire Chief

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Established 1870 Akron, Ohio

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A Consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER

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¶ Yes, sir; it certainly does pay to use the advertising pages. Go to it!

The Publishers

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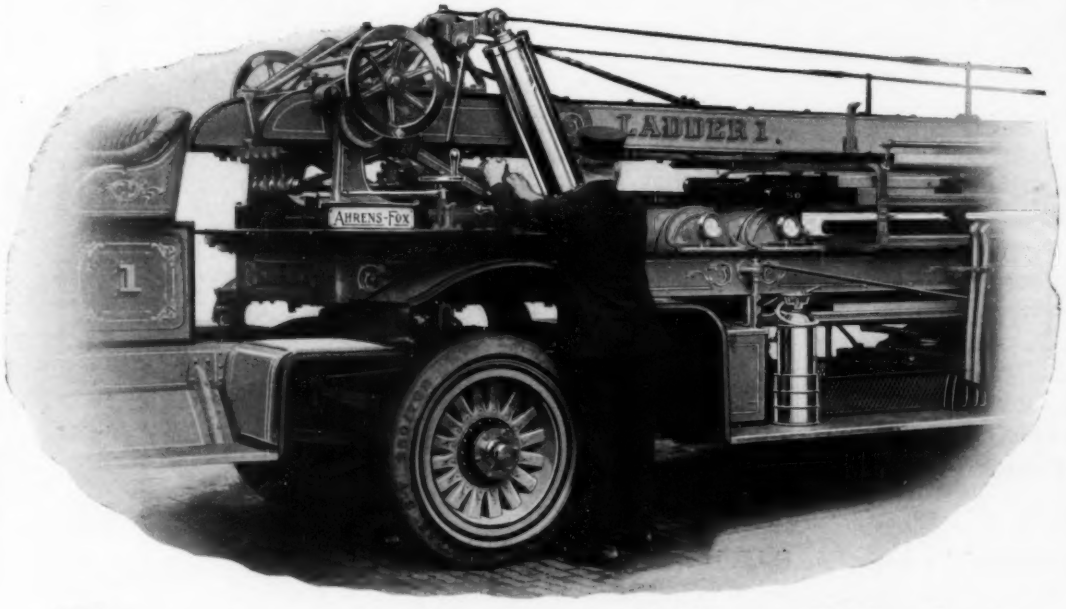
Ahrens-Fox



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is Easily Operated and is Rugged and Dependable

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These are just a few of the many points of merit in the design and construction of the Ahrens-Fox ladder hoist, but there isn't room here to give you more than a slight idea of its advantages, and the superiority of Ahrens-Fox Ladder Trucks.

However, if you will send us your name, position, and address we shall be glad to send you Bulletins with complete information on this improved aerial ladder control, on ladder trucks, and on Ahrens-Fox apparatus in general.

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"Builders of Quality Fire Apparatus"

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One look into a GARL signal box is about all that any fire chief needs to be assured of its constantly being on the job—ready and sure to work when the box is pulled.

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Add to these things the lower first cost and insignificant upkeep expense which simplified design also give and you have every reason to insist on a GARL signal system.

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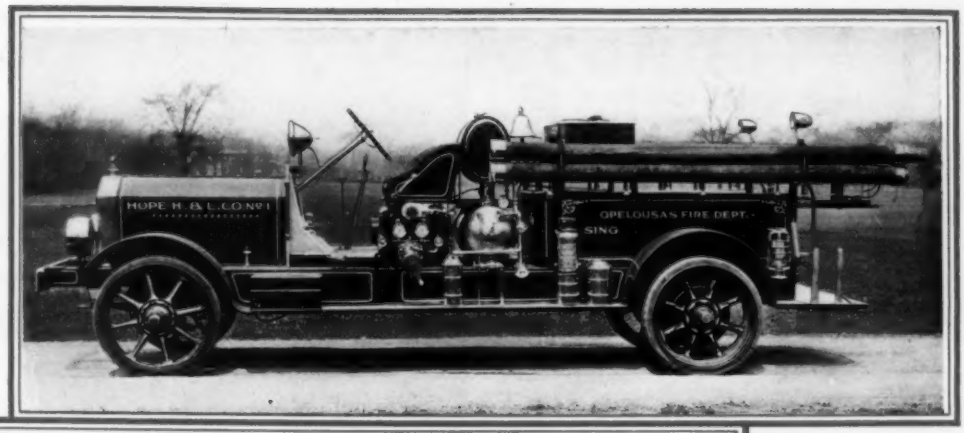
GARL SIGNAL boxes are of attractive design and distinctly storm-proof

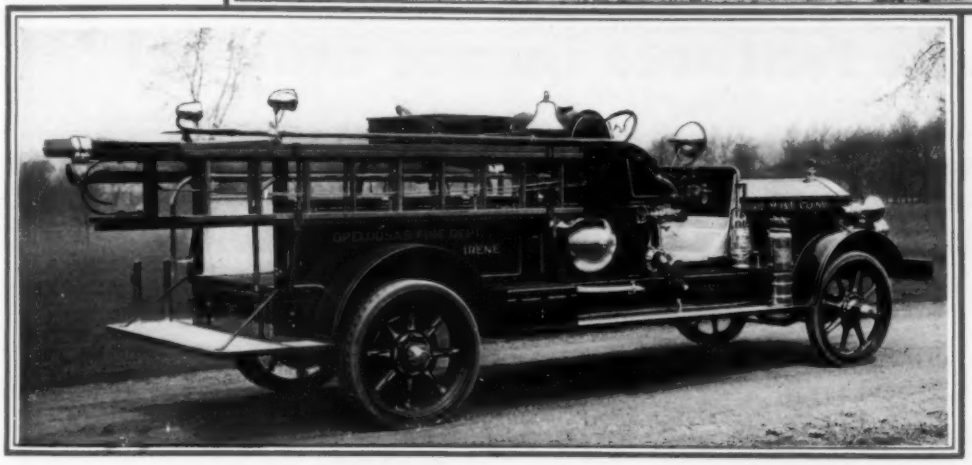
Note the simplicity of internal construction. Nothing to get out of order or to confuse the laymen.

THE GARL SIGNAL COMPANY

Akron, Ohio

A RELIABLE FIRE ALARM SYSTEM MEANS LOWER FIRE LOSSES





The two Model "601-C" 600 gal. Standard Childs *Triple Combination Pump, Chemical Engine and Hose Car Apparatus recently put in service at Opelousas, La*

TWO TO ONE AGAINST EXTRAVAGANCE—

and the protection is more adequate—more dependable

THE town of Opelousas, La., considered purchasing a super-powered, high-priced motor truck such as the largest cities use. But a careful check-up showed that for very little more money they could get a lot more practical protection—with the *two* Standard *Childs* Heavy Duty fire trucks shown above.

Each of these trucks has a pumping capacity of 600 gallons—ample for all but the largest metropolitan fires. The special *Childs-Wisconsin* motor develops over 100 horse-power. Chassis and body meet every requirement of the most strenuous service.

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All the standard types of equipment are available in this *Childs* line of Heavy Duty Fire Apparatus.

For first-aid use on fires of inflammable liquids, paint, chemicals, etc., as well as ordinary fires, 799 Fire Departments now use *Foamite* equipment, which smothers fire under genuine Firefoam—far more effective and less damaging than water or liquid chemicals.

Write for specifications and prices of *Childs* Motor Apparatus, *Foamite* Splash-Proof Extinguishers, and *Foamite* 40-gallon tanks.

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Fire Protection Engineers and Manufacturers
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Foamite-Childs Protection
A Complete Engineering Service
Against Fire

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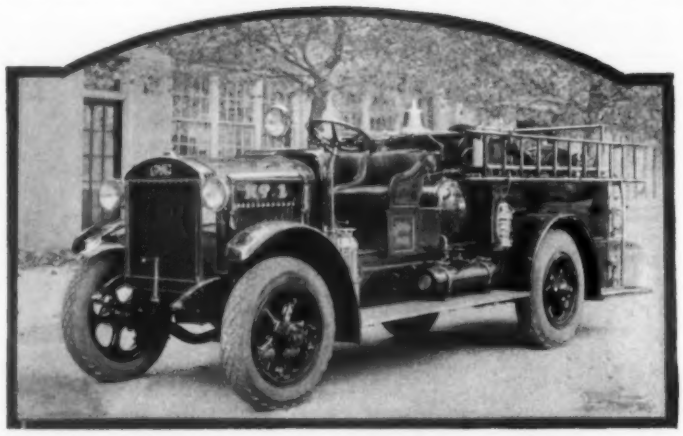

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The ability of GMC Trucks to haul their loads, day after day and year after year, *with a minimum loss of time* is the direct result of General Motors great engineering and manufacturing facilities, plus years of experience in truck building.

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These are but a few of the reasons for the *unusual reliability* of General Motors Trucks.

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GMC 1, 1½ and 2½ ton trucks
GMC Big Brute 3½ and 5 ton trucks — GMC Big Brute 4 to 15 ton Tractor Trucks
Yellow Cabs — Yellow Coaches — Yellow Light Delivery Trucks — Hertz DrivurselfCars

GMT Co—1926

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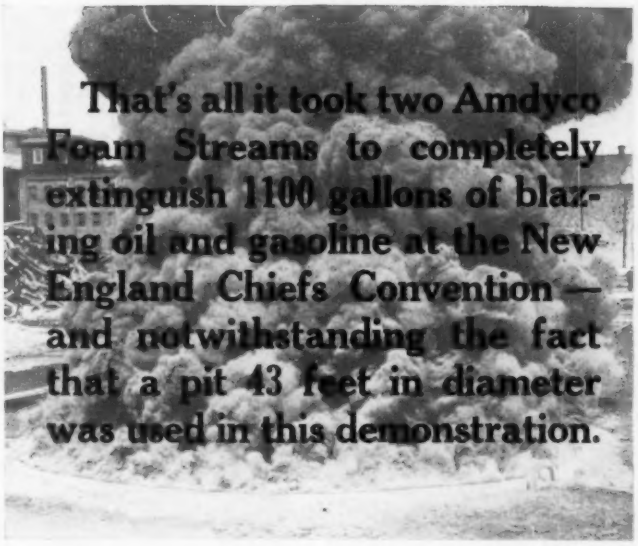
That's all it took two Amdyco Foam Streams to completely extinguish 1100 gallons of blazing oil and gasoline at the New England Chiefs Convention — and notwithstanding the fact that a pit 43 feet in diameter was used in this demonstration.

FIRE CHIEFS who witnessed the tests, saw for themselves why the Amdyco Foam Powder used with the Amdyco Foam Generator is acknowledged to be the most practical and effective method yet devised for fighting oil, gasoline and other flammable liquid fires.

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With the growing use of oil and other flammable liquids, no community can feel secure against such dangerous fire hazards without the protection that only the new Amdyco method can give.

Try out the Amdyco equipment on one of your present fire trucks, and specify it on your next new piece of apparatus. It will easily pay for itself the first time you use it.

Write for literature describing the Amdyco method.
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AMDYCO CORPORATION
100 E. 42nd St., New York

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"Better Foam in Better Form"

A little journey through the GAMEWELL FACTORY

In Icy Blast or Burning Heat

Fire alarm boxes must be sturdily built, more so than any other piece of fire alarm apparatus. They must be built to stand up under all kinds of weather—in the burning 100°F heat of summer months or the icy blasts of 40°F below during the winter months.

The greatest care must be taken in selecting metals, to use only those which will contract and expand in such extreme temperatures without interfering with the operation of the box movements.

Equal care must also be taken in designing and manufacturing the movements. This requires the services of experts. The men engaged in making Gamewell boxes have devoted their lives to this work. Many of them have grown up with the business; others were attracted to this occupation years ago from the ranks of expert watchmakers.

It is only logical, with the safety of lives and property dependent to a large degree upon the operation of the box movements, that suitable protection be provided for them. Inner cases of steel, covered with porcelain enamel offer protection against lightning and high voltages, while Herculite die cast outer shells provide additional protection against accidents, tampering and weather.

After viewing the various stages of manufacturing, visitors at the factory realize why Gamewell boxes give from twenty-five to fifty years of unfailing service.

A Safety Razor Will Be Given

for each item meeting the requirements of our $500.00 Firemen's Relief Contest whether it wins the Contest or not. If you have not seen the details write for bulletin.

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Newton Upper Falls, Mass.

"A Box A Block"

FIRE ENGINEERING

(A Consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER)

The Leading Journal of the Fire Protection Profession

VOLUME LXXIX JULY 10, 1926 NUMBER 13

"Fireproof" Invites False Sense of Security

Underwriters in Survey of Third Large Fire in New York Skyscrapers Say Fireproof Buildings Do Not Burn Down, But Do Burn Out

By WILLIAM JEROME DALY, New York City

IN view of the fact that New York City recently has had three destructive fires in fireproof buildings of office occupancy, the result of a survey made by the New York Board of Fire Underwriters, is given here for the invaluable and interesting information it contains for the fire fighting world.

Last January, as reported at that time by FIRE ENGINEERING, fire of fifth alarm proportions swept the southwest wing of

Exposed Standpipe Shown at Top of Window Openings.

The point where it parted can be seen at the top right center. Window openings are those openings to the flue like court. Photo is of tenth floor and indicates the severe damage sustained, which is typical of floors below to the 6th.

the 38th floor of the Equitable Building in the heart of the financial district of New York. A few weeks later, fire destroyed part of one of the upper floors of the Park Row Building and in April, fire starting on the sixth floor of a ten-story building at No. 296 Broadway, traveled through that building and across a shaft to some of the upper floors of the R. G. Dun Building at No. 290 and 294 Broadway. The latter fire was also a fifth alarm, due mainly to the failure of the standpipes, as herein described. All three fires were at night time. There were no tenants or their employees in the structures at the time.

After the latter fire, the Underwriters, in a report stressed the following "important lessons":

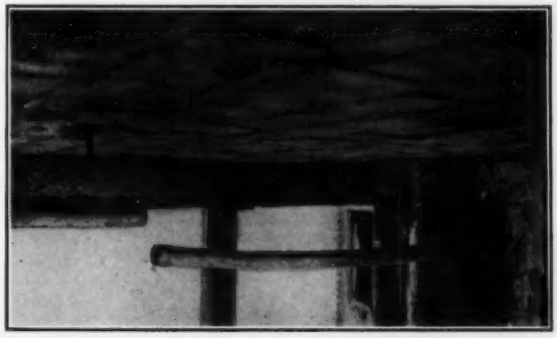
1. "To dispel a false sense of security from fire that exists in the minds of a great many occupants of such structures. It is contents, not buildings, that are hazardous. Buildings of fire resistive construction do not burn down but they can and do burn out. Contents can and do incinerate. The interpretation of the word 'fireproof' is construed all too liberally.
2. "To stress the necessity for systematic and rigid testing of the reliability of standpipe systems by some properly constituted authority. The successful operation of the Fire Department is almost wholly dependent upon the proper functioning of standpipe systems when fighting fires above the 7th or 8th floors. Such fire fighting equipment may remain inactive for years after its installation and when called upon in an emergency fails. This extended period of non-use often accompanied by a tendency on the part of the management to grow lax in maintenance may result in serious loss of life and property. So important protection should respond 100% efficient. In New York City standpipe equipments are not tested after their original test at the time of installation. It is safe to say, as occurred in the fire in this building, that many standpipe equipments are unreliable.
3. "To again reiterate the advantages of the use of approved fire extinguishing and fire protecting devices, such as automatic sprinklers, wired glass windows, fire doors, etc."

In reaching its conclusions generally with reference to fireproof buildings, the Underwriters point out rather forcibly that "fireproof buildings do not burn down, but they do burn out." The conclusions are as follows:

"That many of the tenants sustaining loss are not insured indicates a false sense of security from fire on account of their occupancy in a so termed fireproof building. The word 'fireproof' induces them to carry little or no insurance, in the false belief that there is little danger of fire. They do not realize the combustibility of the contents of the average well constructed fire resistive office building and see only a limited amount of office equipment and furnishings and perhaps some wooden trim and flooring and fail to comprehend that several rooms of this sort, vented by draft passages from floor openings or courts can produce temperature sufficiently high to entirely destroy the contents and possibly cause the disintegration of masonry and warp the unprotected steel work of the structure. It is contents, not buildings that are hazardous. A building may be able to resist fire with safety to itself, but when it contains combustible contents, the damage is likely to be severe. Where conbustible material exists there also exists the possibility of fire. Buildings of fireproof construction do not burn down but they do burn out.

"Automatic sprinklers are regarded as the best type of system of automatic private fire protection. No exception would seem warranted even in the case of office buildings when they contain combustible furnishings or equipment; more especially high buildings.

"Next to the automatic sprinkler equipment a well designed, properly equipped and reliably maintained stand-pipe system constitutes the best means for fire fighting in high buildings. Such stand-pipe systems furnish the only reliable means of obtaining



View Showing Point Where Standpipe in No. 296 Broadway Parted at a Coupling.

This was due primarily to the exposure of the standpipe to the heat of the fire. The secondary cause was the failure of a hanger and the improper assembling of the piping.

effective fire streams in the upper stories of high buildings and delivering such streams in the shortest possible space of time.

"The efficient operation of the Fire Department is almost wholly dependent upon standpipes when combating fires in the upper portions of tall buildings. The reliability of all standpipe

(*Continued on page* 696)

Over Six Hundred Were Registered at the Manchester Meeting of New England Ass

N. E. Chiefs Gain a Third in Membership

Attendance at Manchester Convention 634 as Compared with 459 of a Year Ago at Pittsfield and 426 Two Years Ago at Boston

THE fourth annual convention of the New England Association of Fire Chiefs which was held at Manchester, N. H., on June 22nd to 24th established several records. In the first place the attendance was nearly one-third greater than that of the last convention; more time was devoted to business; and an excellent array of exhibits were provided which completely filled the local armory.

Chief Chas. H. French, Manchester, N. H. Convention Host and newly elected President

The opening session of the convention was called to order at 2 P. M. June 22nd in the ball room of Hotel Carpenter, Chief Daniel E. Johnson, President, presiding, and who made the introductory remarks. A selection by a male quartet was followed by an Address of Welcome by Hon. Charles W. Tobey, President of the New Hampshire State Senate. Mr. Tobey in behalf of the Chief Executive of the state extended greetings and a cordial welcome to the visitors.

Mr. Albert L. Clough, Alderman of Manchester, N. H., delivered a very vigorous talk on "tolerance" and also covered the subject of lawlessness in an emphatic manner.

Memorial exercises followed the opening session, after which Chief Evans of New Orleans, La., and Former Fire Commissioner Theo. Glynn of Boston were called upon to talk.

Chief Evans complimented the association on the splendid progress they had made and invited the body to attend the I. A. F. E. Convention to be held at New Orleans next October. Chief Evans stated that Mayor O'Keefe of New Orleans had extended, through him, an invitation to the New England organization.

Former Fire Commissioner Theodore Glynn of Boston spoke in agreement with the invitation of Chief Evans and urged the members to do their best to get down to New Orleans.

He invited the Association to meet in Boston in 1929. Commissioner Glynn received a warm welcome.

Tuesday Evening Session

On Tuesday evening following a banquet in the Hotel Carpenter ball room, a session was held at which a registration committee was appointed.

A courtesies committee was also designated by the chair, consisting of Chief Reif of New Haven, Chief Pat Hurley of Holyoke, and Chief Selden Allen of Brookline.

The report of the secretary was read and accepted as read. Communications were presented from Thomas R. Johnstone and Edward Dahill, the latter from Old Faithful Inn, Yellowstone Park. Both expressed regret at not being able to attend the convention.

Communications were also read regarding the illness of Carl Stockwell, Chief of the Burlington, Vt. Fire Department who is in the hospital. He was answering an alarm to another town and hit a telegraph pole. Chief Rose of New London was also reported as being very ill in a hospital in that city.

Upon motion it was unanimously voted that telegrams of sympathy be sent to Chiefs Stockwell and Rose.

Great Increase in Membership

The report of the Secretary-Treasurer showed that on June 20, 1925, there were 353 members in the association.

On June 20, 1926, which was the Sunday preceding the opening of the convention, the association had 445 members.

During the year two members died and 25 withdrew.

In June 1925 the cash balance totaled $3,956.83 while in June 1926 the total was $6,570.02. Three years ago at the Bridgeport Convention there were 119 members and a cash balance of only $173.90.

The auditing committee submitted a report to the effect that the records were correct in all details.

The report of the exhibit committee showed receipts of $787.50 and expenditures of $19.20 leaving a balance of $768.30.

Salvage Work Not Fully Discussed

The report of Chief McCarthy, Chairman of the Salvage Work Committee, indicated that little progress had been made on the subject. Chief McCarthy expressed his personal views to the effect that he did not feel that fire departments should do salvage work. The chair, due to the lack of time, suggested that the discussion of this subject be taken up later on during the convention, but as the business sessions were crowded throughout the convention the subject was not reopened to give those of opposite views an opportunity to state their positions .

Oil Burner Regulations

Walter L. Wedger, Former Chemist of Explosives and Chemicals of the Massachusetts Department of Public Safety presented a very elaborate report on the regulation of oil burners. Included in the report was a specimen set of regulations for the construction and installation of these burners.

By vote of the convention the secretary was ordered to have

Chiefs—and Here's Most of Them, Posed in Front of the Hotel Carpenter.

copies of these regulations printed and submitted to the governors of the New England states with a request that the substance thereof be incorporated into laws in those states.

This would make the oil burner regulations uniform throughout New England and would eliminate a lot of confusion.

A representative of the Petroleum Heat and Power Company commented on the regulations, stating that he felt they were well formulated and that they covered in an admirable manner the essential safety points of oil burner construction and installation.

Chief Allen spoke on placement of 275 gallon tanks in basements. He stated that the regulations were based on experiences, —experiences of practical firemen.

Chief Veit of Stamford suggested a change in the tank thickness—making it a little greater than the specifications called for.

Chief Geo. L. Johnson of Waltham, Mass. opposed the storage of oil in basements, pointing out experiences which showed the danger of this practice.

The report of this committee was accepted as presented.

The Question Box

The question box brought forth the following: "Is it not time that Fire Chiefs of New England do something for ourselves by setting aside a fund to help any member in need?"

Ex-Chief Doyle of Wellesley, Mass., who was the author of this question explained his reasons for it, citing instances in his own state and, as he believed the association to be in a position financially to do something along this line, suggested that steps should be taken to establish such a fund.

Chief W. H. Mahoney of Peabody, Mass., moved that the directors be given power to proceed with the work and that a report be made at the next convention. The motion was unanimously carried.

The next question presented was: "Is it the purpose of anyone to put the present salvage corps out of business?"

This question was answered by Mr. Ashmead of the National Board of Fire Underwriters who said: "It is not the intention of the National Board of Fire Underwriters to banish any of the existing Salvage corps, and further, no additional companies will be established by this organization."

The subject of salvage work by fire departments has been discussed at some length at previous meetings of this association and opinions expressed were in favor of such work being done by a company established and trained especially for this work, a portion of the expense to be borne by the insurance companies.

"Should the Association become a member of the National Fire Protection Association and the International Association of Fire Engineers?" another question from the question box was discussed, H. L. Bond of the National Fire Protection Association explaining the advantages of being a member of that organization.

Under motion of Chief Geo. L. Johnson, it was voted that the association become a member of the National Fire Protection Association and also the International Association of Fire Engineers.

In accordance with provisions of the constitution Secretary O'Hearn called the attention of the association to the subject of active membership for commissioners which will be voted on at the next meeting.

Acting Fire Commissioner T. Sullivan of Boston was called upon by the chair to say a few words and highly praised Chief Sennott's work. He spoke vigorously against politics in the department and its damaging effects to fire fighting forces.

Upon motion of Chief Allen, Col. T. Sullivan was made an honorary member of the association; upon motion of Chief Geo. L. Johnson Chief Evans of New Orleans was also made an honorary member.

Wednesday Morning Session

The first paper of the Wednesday morning session was "Co-operation of Fire Departments and Insurance Companies" by Col. Wm. B. Burpee, Secretary, New Hampshire Fire Insurance Company.

Extracts therefrom follow: "You gentlemen, and the organi-

(*Continued on page* 671)

L. to R.—Commissioners C. H. Austin and H. G. Lintott, and Chief Jas. E. Smith, of Nashua, N. H.

J. H. Lovell, American-La France Co., Boston, and Fire Com'r G. S. McCarthy, Lewiston, Me.

Ex-Ch. F. A. Murray, Morris Cove, Conn., Chief M. McPhee, Lawrence, Mass., Chief F. J. Guerin, St. Albans, Vt.

COURSE OF INSTRUCTION IN FIRE PROTECTION

AS GIVEN AT THE UNIVERSITY OF ILLINOIS

MECHANICAL INSTALLATIONS

By RAYMOND T. NELSON,
Engineer, Western Actuarial Bureau, Chicago

THIS fourteenth installment of the University of Illinois Course in Fire Prevention continues the consideration of a type of common and very important hazards which the chief has to combat in his fire prevention work:

HOT AIR FURNACES (Pipeless) (Fig. 16)

Floors: Floors, if combustible, should be protected by two courses of 4-inch hollow tile crossed with boiler iron on top, or three courses of brick, with middle course laid cross-

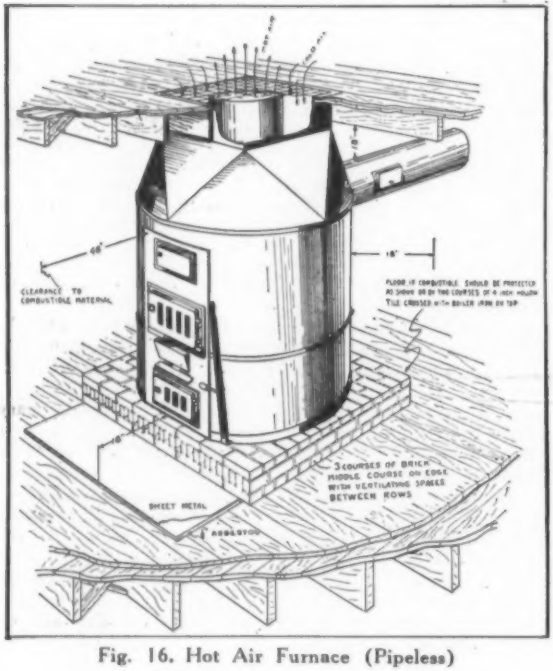

CLEARANCE TO COMBUSTIBLE MATERIAL
3 COURSES OF BRICK MIDDLE COURSE ON EDGE WITH VENTILATING SPACES BETWEEN ROWS
SHEET METAL

Fig. 16. Hot Air Furnace (Pipeless)

wise and on edge, with ventilating spaces, left open at ends, between. Protection should extend even with furnace at sides, front and rear, and in addition, if other than gas, electricity, or liquid fuel is used, floor, for a distance of 18 inches in front, should be protected by a layer of ¼-inch asbestos covered with sheet metal or its equivalent.

Lateral and Vertical Clearances: Clearances between furnace and unprotected materials at sides, front and rear should be as follows: At sides and rear 18"; in front 48".

Note: If clearances are less than those specified above, combustible materials should be protected as follows:
At Sides, rear or in front: Woodworkings should be protected by a layer of not less than ⅛-inch asbestos with a covering of sheet metal supported so as to leave an air space one one inch, or by a layer of ¼-inch asbestos board supported to leave at least a 1-inch air space. In no event should the clearances be less than one-half of those specified above.

Breechings: Clearance between metal breechings and unprotected combustible materials should not be less than 18 inches.

Note: If clearance is less than 18 inches, pipe should be covered with at least 2 inches of magnesia lagging or its equivalent, or woodwork protected as above. In no event should the clearance be less than 9 inches.

INSTALLATION OF ORDINARY STOVES (Fig. 17)

Floor: Floor under ordinary stoves, with legs *less than* 4 *inches* high should be protected by two courses of 4-inch hollow tile crossed with boiler iron on top, or three courses of brick with the middle course laid crosswise and on edge, with ventilating spaces, left open at the ends, between. Protection should extend even with stove at the sides, front and rear and, in addition, if other than gas, electricity or liquid fuel is used, floor, for a distance of 18 inches in front, should be protected by a layer of ¼-inch asbestos covered with sheet metal or its equivalent.

Floor under ordinary stoves with legs 4 *inches or more high,* if combustible, may be protected by a layer of sheet metal in place of the materials above specified.

Lateral and Vertical Clearances: Clearance between stove and unprotected combustible materials above, and at sides, front and rear should conform to the following requirements: Above 18"; At sides and rear 18"; in front 48".

Note 1: If clearances are less than those specified, combustible woodwork should be protected by a layer of ⅛-inch asbestos or its equivalent covered with metal so supported as to leave an air space of one inch; or by a covering of ¼-inch asbestos or its equivalent supported so as to leave an air space of one inch. In no event should the clearances be less than one-half of those specified above.

Note 2: Stove should be provided with a metal shield set away 18 inches at sides and rear where inflammable materials can come in contact with same.

Stovepipe: Clearance between stovepipe and unprotected combustible materials should be not less than 18 inches. Stovepipes, passing through combustible partitions, windows, sides of building, ceilings, or roof should be provided with at least 6 inches of clearance to combustible materials.

(To be continued)

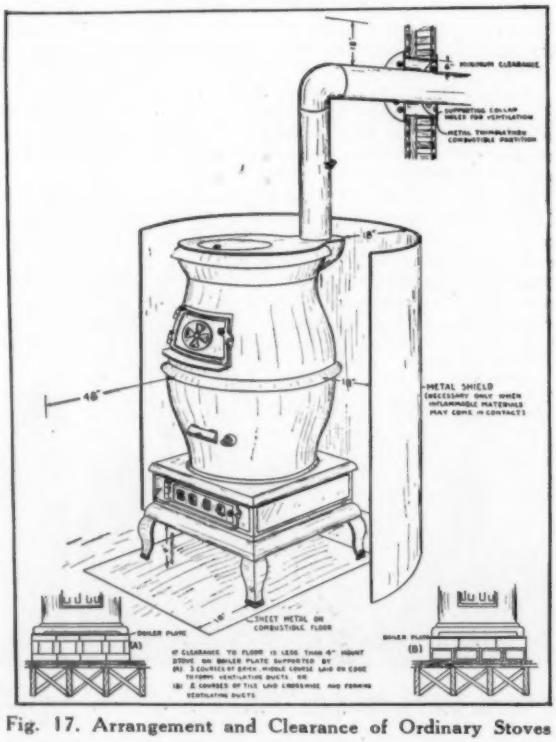


Fig. 17. Arrangement and Clearance of Ordinary Stoves

Modern Fire Alarm Signalling

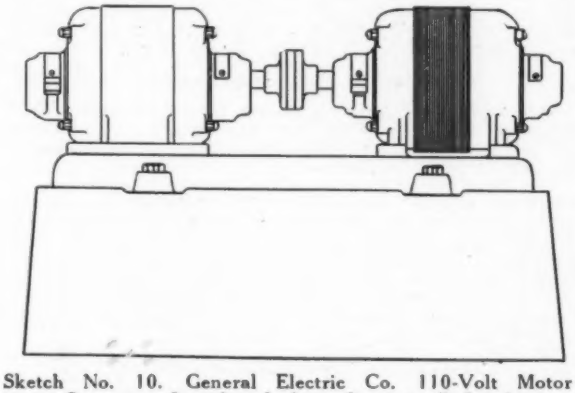
Installation of Generator Sets—Cause of Troubles and Means for Remedying

By E. W. KEIRSTEAD, E. E.

THE author in this article, which is the fifth of a series, describes the generator set that is used to furnish the electrical power for the operation of the modern fire alarm system. He has had practical experience in fire alarm work, and he will answer questions on this subject submitted by the readers free of charge. The only condition is that a stamped envelope must be enclosed for reply.

Description, Installation and Trouble Cures

Where direct current of 110 or 220 volts is not for any reason available, we must use some means whereby we can take alternating current and make direct current of the proper voltage. Alternating current is not capable of charging a storage battery, as its polarity is being constantly changed every cycle. Should it be used to charge a battery it would charge the battery at one period of the cycle and discharge it at the other period of the cycle.



Sketch No. 10. General Electric Co. 110-Volt Motor Generator Set, Attached to Concrete Pedestal.

The most approved and perhaps economical way of our obtaining a direct current of the proper voltage is by means of a motor generator set. They may be obtained in either 110 or 220 volt ratings, and it is necessary to specify what voltage is desired when ordering the machine. It will also be necessary to specify the largest amperage that will be drawn from the machine.

In a very small office a single 110 volt set will serve the purpose, but in large offices and cities where a great number of batteries are to be charged it will be necessary to get two 110 or 220 volt machines. In some offices the Board of Fire Underwriters demand a gas or steam engine generator as an emergency unit to be put in service when the regular power source should for any reason fail. In offices where two or more generator sets are used it is good practice to use one set one day and another the next, in this way keeping all sets under observation.

By looking at sketch No. 10 you can readily see that a motor generator set is simply an alternating current motor and a direct current generator made up on the same shaft and built as a unit. The motor is connected to the alternating current mains and the generator leads are used as the source of supply. These units are very compact and do not, as a rule, give very much trouble providing they are serviced properly.

Generators are usually placed in the same room as the batteries, or in a separate room. Regardless of where they are placed, the room should be dry and have good ventilation, the temperature should be kept as near normal as is possible. It should never be subject to great changes (ie) from 36° to 90° as the set will not operate as good as it should and in time may give out entirely.

Installation of Generators

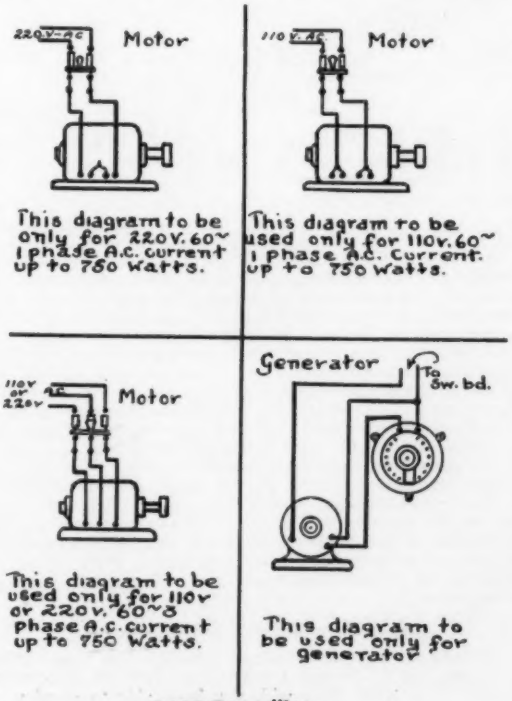
The very first thing we should do when the motor generator set arrives is to carefully unpack the machine and see if it has in any way been damaged in transit. If after you inspect the machine carefully, you see that it has been damaged you should make arrangements to ship it back to the factory. If the generator appears to be all right, the base or shelf can be erected. Very small generators can be set on shelves which can be made of any good hard wood. The shelf should be made so as to be about three inches larger all around than the generator, and should be securely attached to the wall and braced. The switches and the rheostats can be mounted directly above the set and save long runs in wiring it up.

Where large sets are used the base should be made up of the same material as the floor it is to be built upon. If the floor is of wood a wooden base should be made and one is shown in sketch No. 12, as well as a concrete base. In making concrete bases it will be well to follow the instructions given here as it is a standard method and has been proven successful.

Before starting to mix any cement or starting to cut a place in the floor where you intend to put your base, make up your wooden form which can be made of old boards of the same thickness, it is always easy to get boards of this nature around most any engine house or alarm station. As the base is to be four or five inches larger all around on the top surface our form will have to be that much larger on the inside. You can see the principle construction of the forms as they are shown in sketch No. 12. There are two forms shown for concrete bases (ie) a straight and a slanting side base. The straight base is perhaps the simplest design but the slanting side base is the best looking when completed. The base can be of any height desired, but should not be any less than a foot from the floor so as to keep any water which may collect on the floor away from the generator set.

The formula for the mixing of the cement is as follows and can be changed to suit the desires of the individual, but the formula given here will make a very strong base and will hold up well besides being a smooth looking job. The body of the cement should be, three parts of crushed stone, two parts of fine sand and one part of dry Portland or any good grade of cement. Water is added to the mixture after it has been well mixed. Too much water should not be used as it will take a great deal longer for the base to dry.

After the form is made it should be set on the floor in the desired location and a line drawn on the floor around the inside


220 V. A.C.
Motor
This diagram to be only for 220V. 60~ 1 phase A.C. current up to 750 watts.
110 V. A.C.
Motor
This diagram to be used only for 110v. 60~ 1 phase A.C. Current up to 750 watts.
110v or 220v
Motor
This diagram to be used only for 110v or 220v. 60~3 phase A.C. current up to 750 watts.
Generator
To Sw. bd.
This diagram to be used only for generator

SKETCH #11

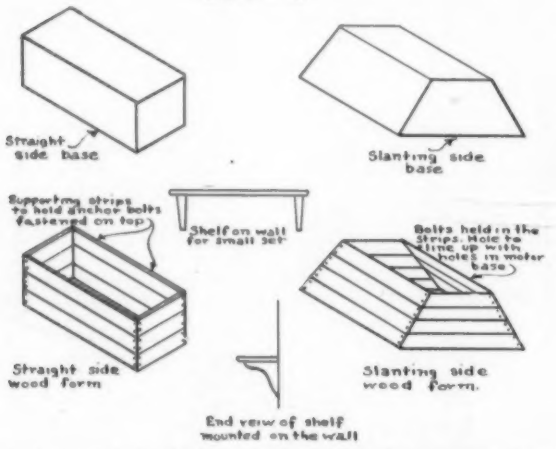
of the form, the form can now be lifted out of the way and a second line is drawn around the first one being two inches inside the first one. The floor will have to be cut down about an inch or so stopping at the inside line. It is necessary to do this so as to give the cement something to hold to.

After the floor has been cut down as described above it will have to be well wet down with water it being necessary to wet it down possibly two or three times before pouring cement. When the floor is well wet take the base form and place it so the inside of the form corresponds with the outside line and you are now ready to pour the cement into the form.

First be sure you have enough cement to finish the job with before you start. Do not pour in too much cement at one time and be sure that you tamp it down well if you put it in with a trowel or shovel. Failure to do this will leave the base full of air holes when the form is taken down. After each bucket or pail of cement is poured tamp it down good, and smooth over the surface until the top is reached. The top is smoothed off as fine as possible in order to allow the generator to set on the base, plumb and secure. If it is not very nearly true or square the set will have to be shimmed up.

Be sure that it is well squared around the securing bolts or the wood blocks, depending of course upon the one you use. Leave the form and base set pouring a little water over the top of one or two times the first day and leave it dry out for at least three or four days. At the end of this time the form can be taken apart. The cement block will be somewhat rough and it will have to be filled in, it being necessary to mix up a little cement with a small amount of sand in it and fill up all the small holes. After this has dried out a little, mix up some neat cement, it being nothing more than pure cement and water.

SKETCH #12


Straight side base
Slanting side base
Supporting strips to hold anchor bolts fastened on top
Shelf on wall for small set
Bolts held in the strips. Hole to line up with holes in motor base
Straight side wood form
Slanting side wood form.
End view of shelf mounted on the wall

Obtain a good size brush and give the whole base a good coat of it allowing a day or so in which to dry out at which time you will have a good looking base to mount your generator set upon.

Lubrication of Motor and Generator Before Setting Up

It motor has oil ring bearings, fill bearings with a good grade of lubricating oil before attempting to start the motor. See that the oil ring bearing is in place on the shaft and turn with it, carrying oil to the top of the shaft. If motor has ball bearings they will be packed with sufficient grease to last several months, after which a few drops of good lubricating oil should be inserted occasionally at the oilers provided over the bearings.

If the generator has oil ring bearings fill the bearings with any good grade of mineral oil. See that the oil rings set on the shaft, are free to turn with it when the generator is running. Replenish the oil when it becomes necessary.

If the generator has waste packed bearings, they will be packed at the factory with a good grade of mineral lubricating oil. To replenish oil insert it through the hole in the cap to waste packed chamber. If generator has wick oilers, oil cups will be filled at the factory with a non fluid oil. Replenish it with vaseline or petroleum when necessary. Keep all grease and dirt away from the commutators of both the generator and the motor.

Connection of Motors and Generators

Connect motor to circuit of approximately the same voltage and frequency as is stamped on the rating plate on the machine. A switch of a safety type with a voltage able to stand up in excess of the voltage of the machine, should also be provided. On all machines of one h. p. or over you should have a suitable rheostat for controlling the motor and bringing it up to speed. The wiring diagrams for different types of motors will be found in sketch No. 11 in this issue.

Connect the load and field rheostat as indicated in the diagram in sketch No. 11 unless a special diagram is furnished with the generator it then being necessary to connect it as shown by the diagram furnished you. A switch should be placed in the circuit so as to cut the load off of the generator while it is still running. A high reading ammeter and voltmeter should be available so as to be able to tell what the machine is delivering at the terminals.

Operation of Motor and Generator, Reversing of Motor

Before starting the generator make sure that the generator switch is open and the field rheostat is turned as far as it will go in the direction marked, (to cut in resistance). When generator is up to speed turn rheostat in direction marked (to cut out resistance), until voltage rises to the proper value. Next close the load switch and adjust the voltage to the proper voltage. Do this by means of the field rheostat. Do not at any time permit a load greatly in excess of the nameplate rating to remain on the machine as it is harmful and will shorten the life of the machine.

To reverse the rotation of type R. S. A. General Electric motors, loosen the screw which holds the brush yoke in position, and push it over until pointer found beneath the screw head is in line with the white mark found near the opposite end of the slot. To reverse any other type motor, see the special directions which will be supplied with the set.

Care of the Motor and Generator

Keep motor clean and dry. Clean contact surfaces with a cloth slightly moistened with kerosene. Blow out the dust which will collect around the windings and between the short circuiting disk and the commutator.

Keep the generator clean and dry. Blow out the dust from in around the windings occasionally. The commutator should be kept clean by wiping occasionally with a piece of clean cloth. A drop of two of kerosene on the cloth will loosen any black deposit. The brushes are self lubricating and do not need any lubricant applied to them. No oil or grease should ever be applied to the commutator. If the oil in the bearings should become dirty, flush the bearing with kerosene and apply new oil. Never do this with the generator in motion.

Troubles and Their Causes and Remedy

Generator fails to start.

A. Motor line switch is open. Close to start the machine.

B. Brushes out of adjustment. Adjust to correct fault.

C. Brushes out of machine. Replace brushes.

D. Field coils open in motor. Find break and connect again.

C. Broken wire in armature. Correct the trouble by making test with a test light connected with a resistance unit. Splice lead together and solder it securely.

Motor or generator brushes spark at commutator.

A. Clean the commutator with a dry rag.

B. Commutator oily or dirty. Clean with dry rag.

C. Commutator has rough spots. Smooth up by polishing with a piece of fine sandpaper, keeping the machine in motion while doing so.

D. Brushes are bad. Take the brushes out and replace with a new set. If no new set is available take old ones and smoothen with a piece of fine sandpaper.

E. Brushes are not set properly. Set the brushes as shown by the white line or mark on the motor case.

Motor does not build up to speed.

A. 110 volt motor connected as for 220 volt machine. Change the wiring.

B. Dirty commutator. Clean and polish the commutator.

C. Weak field coils or weak field. Take motor apart and clean, look for loose wires or bare wires and correct.

D. Bearings are too tight. Loosen the bearing so as the motor can build up to speed.

E. Too much resistance cut in motor fields. Cut out resistance until the motor builds up.

Motor heats up to a high degree.

A. Bearings are too tight. Loosen to let machine cool off and adjust them properly to prevent motor heating again.

B. No oil in bearing cups. Shut off the machine and put in oil or vaseline whichever is required.

C. Some foreign substance in bearings. Take down the machine and look over the shaft and clean the machine putting in new oil.

D. Shaft untrue or armature hitting pole pieces. Take down the machine and if such is the case have new one sent from the factory.

(*Continued on page* 675)

Get Streams Under Pier to Check Fire

Time Lost in Cutting Through Heavy Plank Flooring Responsible for Spread of Fire—Suggested Method of Handling It

THE fire described in the last issue of FIRE ENGINEERING featured a type of structure which has figured in many fires during the past year.

The chief difficulty with this type of fire is the large open channels through which fire may spread and the great difficulty encountered in getting streams directly on the fire. To this must be added the usual condition of wooden spiles, which are coated with oil and grease.

As described in the original account of this fire, the pier building and shed were of frame construction with the exception that the pier shed was covered with sheet iron.

The contents of the pier shed included turpentine in wooden barrels, cotton and some finished pine lumber.

As noted in the previous article the fire department in the city in which this fire occurred included seven engine companies all motorized, two ladder companies and one combination chemical and hose car.

The response to alarms is as follows at this particular location: First alarm, engine companies Nos. 1, 2 and 3 and ladder Co. No. 1; second alarm engine companies Nos. 4 and 5 and ladder Co. No. 2; third alarm engine companies Nos. 6 and 7 and combination chemical and hose car. The water supply was satisfactory, there being plenty of hydrants and good pressure at all times.

The Fire

As noted in the original article, the fire started shortly after noon on a Saturday, after the pier sheds had been locked. A small motor launch had been moored beneath the pier and the owner was working on the engine. From some unknown cause the motor boat took fire and the owner jumped into the water, swam to the shore and transmitted a first alarm bringing out the assignment noted above. Only one line was stretched, that from engine Co. No. 1 and this line was held in readiness while members of the truck company were cutting holes through the heavy plank flooring which at this point was at least four inches thick. While this was going on the chief arrived, surveyed the fire, and noting that the spiles beneath the pier were burning, transmitted a second call, and at the same time assigned additional men to cutting holes in the pier flooring within the shed.

Fire continued to spread until it was seen that the pier was well ablaze beneath the area of the far end of the pier shed, when a third alarm was transmitted. From this point on the fire continued to increase in intensity, eventually passing through the flooring into the sheds and involving the contents thereof.

Suggested Method of Handling Fire

Suggested method of handling this fire is as follows: Engine Co. No. 1 with assistance of members of ladder Co. No. 1, immediately upon arriving and noting location of the fire get a ladder in position from the pier into the water. A 25 foot ladder will answer the purpose.

As soon as this ladder is put into position so that men can climb down and operate from it, engine Co. No. 2 should pass down a line which they have already been ordered to lay, and assist the men on the ladder in getting it into position. Line should be secured to ladder with ladder rope and after everything is in order the water should be turned on. This stream will likely be able to hold the fire if not extinguish it.

If there is available a row boat, this should be pressed into service to take a second line beneath the pier.

The hose, when charged with water and resting in the water beneath the pier, will have very little weight and will not encumber the boat seriously in its operation.

A row boat is very satisfactory for this purpose, if nothing else can be had, and it can be tied to one of the spiles and a line operated from it onto the fire.

If a row boat is not available then a second ladder should be dropped into position, if necessary, at the far side of the pier.

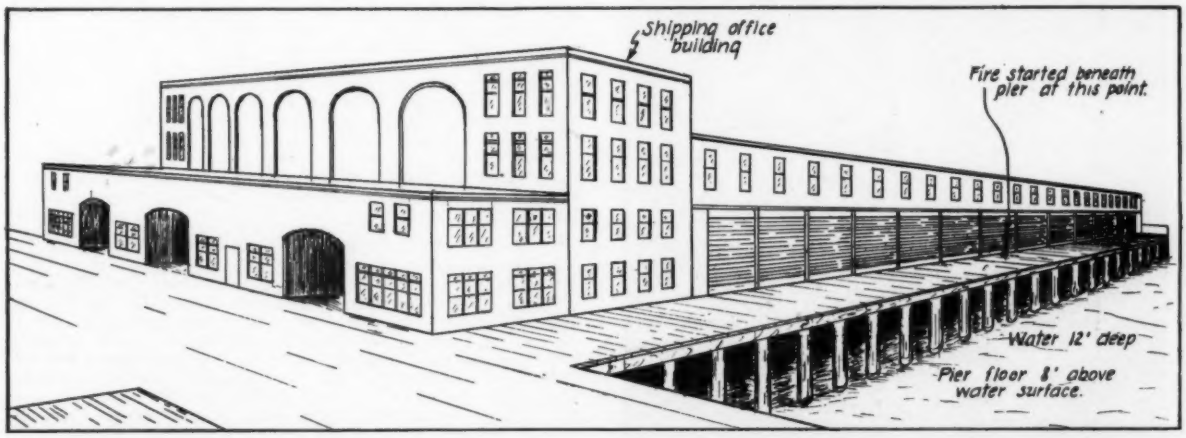
To this, engine Co. No. 3 should stretch another line and with members of the other companies on hand get the line in operation.

It will require more men to keep a line in operation because men must tend the ladder and assist the others operating on it.

By the time these two lines are in position and operation, it will be quite evident or not whether they can hold the fire. If they can, then no additional help will be required.

If there is any possibility of the fire getting beyond their control a second or third alarm should be transmitted at once, depending upon conditions.

The second alarm will bring out the other ladder company and it is not likely that a third alarm will help much in operating from beneath the pier.



While lines are operating beneath the pier, men should patrol the pier shed to make sure that none of the contents of the pier is endangered by fire coming through openings in the pier floor. Due to the great thickness of the pier floor it is not likely that fire will come through very readily and in the meantime the men will have a good opportunity to operate on the fire and bring it under control, through working from ladders.

It seems that the chief faults made by the department in operating at this fire was in attempting to cut through the heavy plank flooring in order to get at the small fire in the motor boat. Valuable time could have been saved and possibly the fire held to the boat and very likely one or two of the spiles if men had operated at the start from a ladder placed in the water.

As the pier building is only 75 feet wide, it is not likely that a stream would have to carry more than 50 feet to do satisfactory work. Fires have been fought in this manner very successfully and where it is so necessary to get a stream on the fire in its early stages this method should have been followed.

Another point which was overlooked by the fire department is the fact that an ordinary cellar pipe would not satisfactorily clear the deep beams beneath the floor and as a result it was impossible to get streams onto the fire by means of an ordinary cellar pipe. Had the department had bent cellar pipes or subcellar pipes the story would have been different. All of these points fit into the handling of the fire and neglect of them tended to make the work of the department inefficient.

Filming of "The Fire Brigade" Nears Completion

Big Feature Motion Picture Sponsored by International Association of Fire Engineers an Elaborate Production

GREAT headway is being made with "The Fire Brigade," the motion picture being produced by the Metro-Goldwyn-Mayer Studios under the sponsorship of the International Association of Fire Engineers. Chief Ralph Scott of Los Angeles and Jay W. Stevens, State Fire Marshal of California, who have been constantly at the studios, report that the filming, which has been going on for more than a month, is practically completed and as things line up now, the picture holds every promise of working out as a far bigger and better proposition for the Association than had ever been anticipated. According to present plans the film will have its first showing at the New Orleans Convention in October, and then open up all over the country.

A Few of the Scenes From "The Fire Brigade" I. A. F. E. Motion Picture.

At the top is Charles Ray with May McAvoy; Center, Tom O'Brien, of "The Big Parade" fame, with the two child stars, Irene Butler and Joyce Coad; Below is shown a tense moment at Fire Headquarters.

Picture Includes Elaborate Scenes

Some idea of the magnitude of the production, and the great amount of work that is being put into the filming, can be gleaned from some portions of the film that have already been taken. On May 25th all traffic in the principal thoroughfares of Los Angeles was suspended when practically the entire Los Angeles Fire Department, consisting of 1,500 men, and a majority of the apparatus, paraded for one of the scenes that is to be part of "The Fire Brigade." The parade was led by Chief Scott of Los Angeles, who is acting as Technical Director of the picture, and State Fire Marshal Jay W. Stevens, who is at the head of the I. A. F. E. Committee in Charge, and it required fourteen moving picture cameras, placed at various points along the route, to film this one feature.

In another scene several large buildings especially constructed to clearly show the various traps through which firemen must risk life daily in order to save human life, were consigned to the flames at the M-G-M studios in order to obtain true and thrilling scenes of daring rescue work. Its sequence, incidentally, will be filmed in technicolor to give the flames their natural appearance. Several other scenes, on an even more elaborate scale, are now in course of preparation.

Well-known Screen Stars in Cast

Charles Ray takes the leading male role, and May McAvoy the feminine lead, with such other celebrities as Tom O'Brien of "The Big Parade" fame, Holmes Herbert, Bert Woodruff, James Bradbury and Warner P. Richman included in other important parts. In the cast also, are little Irene Butler, a four-year old actress who recently won a national Child Movie Star Contest, and Joyce Coad, a youngster who has since become the prodigy of Lillian Gish. Hunt Stromberg is Associate Production Executive in charge of "The Fire Brigade," with Wm. Nigh as director.

Plans for Showing Picture Under Way

Details connected with the distribution and exhibition of "The Fire Brigade" are being given a vast amount of consideration at the present time. From the great interest and enthusiasm that has already been stirred up not only among the firemen of the country, but throughout the film industry as well, "The Fire Brigade" bids fair to be one of the biggest hits of next season. When final plans are completed, fire chiefs everywhere will be given all the details and told how they can cooperate in making this big undertaking, that means so much to the fire-fighting profession, the big success it deserves.

A Word of Warning

Fire chiefs are being cautioned not to confuse "The Fire Brigade" with pictures known as "The Still Alarm," "The Third Alarm," "Flames" and others which have recently been put into circulation by other producers. Forget about these pictures—they have nothing to do with the I. A. F. E. Just remember that the title of the I. A. F. E.'s picture is "The Fire Brigade" and the producers are Metro-Goldwyn-Mayer. The title "Flames," incidentally, was originally announced for the I. A. F. E. picture, but after the nation-wide title contest in which "The Fire Brigade" was decided upon, the discarded "Flames" was taken by another producer.

Old Steam Pumper Rejuvenated

The old steam operated pumper of Columbia, S. C., which was probably scheduled for the junk heap was donated by the city council to the volunteer fire department. Through the missionary work of a committee of the residents, the council appropriated enough money to construct a place in which to house the pumper and to repair the apparatus so that it could be used in emergency purposes.

About $300 was spent to bring the apparatus to working condition. At a test which was somewhat of a holiday for the old time fire-fighters and residents, the pumper delivered three good sized fire streams. The volunteers are now ready to respond with their rejuvenated pumper.

N. E. Chiefs Gain Third in Membership

(*Continued from page 665*)

zations that you command are the armies of protection standing between the fire fiend and the life and property of more than one hundred and ten millions of people in these United States, and what a task it is that you have undertaken! This glorious country of ours, prolific in everything, leads the world by many laps in regard to the number of its fires and the total destruction of life and property by fire.

"In spite of the energetic work of your departments, the fire waste of the country is approximately one thousand dollars per minute, and I ask you to stop and consider where this waste would run to were it not for the magnificent work done by the fire departments daily and hourly, in fair weather and in storm, with the temperature many degrees below zero and the wind howling, as well as in the bright sunshine of a summer afternoon.

"Now, are the insurance companies co-operating with the fire departments? Are they doing all that they should to prevent fires and assist in the extinguishment of the same? I say to you that they are, that they are meeting this issue by expenditure of great amounts of time and money."

Col. Burpee quoted Pres. Smith who, addressing the recent annual meeting of the National Board of Fire Underwriters in New York said: "Fire Prevention is far from being nobody's business as someone called it not long ago, for we have concerned ourselves about it so earnestly and disinterestedly that many civic organizations and those connected with other branches of commerce, as well as numerous societies and individuals, have made the prevention of fire their business too. This expanding spirit of co-operation, I would say, is our best hope for making actual (and not merely relative) progress in reducing the fire waste."

Col. Burpee believes that the co-operative organizations built up in this country by fire insurance companies are accomplishing their purpose, are on a sound basis and will continue onward with their task."

Dusts and their Relation to Explosions and Fires

The second paper of the morning session was by Fred. Shepperd, Managing Editor of FIRE ENGINEERING. The paper which will be printed in subsequent issues of this journal treated the subject of inflammable dusts insofar as they relate to the work of fire departments.

Demonstrations were made with a miniature grain elevator which showed how various dusts act when ignited. Included in the demonstrations was one which showed the action of powdered aluminum when ignited.

Traffic Regulations

The following paper was that by Chief of Police M. J. Healy on "Traffic Regulations." Extracts from this paper follow: "Today the question of traffic is a topic of world-wide discussion. We all have traffic and we all wish to know how to handle it. The traffic regulation in each city should be in the hands of those who are especially charged with its enforcement.

"New York adopted the control of traffic by the tower flash system which worked wonders and has since been adopted by many of our larger cities.

"In may respects the traffic problems of each city are different and must be solved as individual cases, but there are certain problems common to every city and town which might be regulated by more uniform laws."

While not favoring the enactment of numerous motor vehicle laws, Chief Healy does think it wise that signs for the direction of the motorist be made more uniform. Also that the color scheme for lights wherever used for the control of traffic should be made standard—that is, red for the "stop" signal, and green for the "go" signal, these two colors being specified because they are the two quite widely used at the present time.

Examinations for license for the operation of motor vehicles and re-examination at stated intervals; education of the pedestrian as well as the auto driver were also points stressed by Chief Healy.

Standard Fire Hose Threads

The final paper of the morning session was by John S. Caldwell, Engineer of the New England Insurance Exchange of Boston on "Progress Made in the Standardization of Fire Hose Threads."

The paper was in the form of a progress report and outlined the progress that had been made in standardizing fire hose threads in the New England states.

Mr. Caldwell pointed out the lack of uniformity in new couplings as purchased from some of the fire hose manufacturers. He stated that this is a subject that deserves careful attention, for the purchase of non-standard couplings will nullify a lot of work of the departments which are now standardizing their fire hose and hydrant threads.

Inspection of Manchester Fire Department

At the close of the morning business session the chiefs and delegates left headquarters hotel on a tour of inspection of the fire stations. A progressive luncheon was served at various stations enroute the tour, the party arriving at the Textile Field at 2 P. M. for the demonstrations given by the Foamite-Childs Corporation and the Amdyco Corporation.

Foamite Tests

Demonstration No. 1 of the former company: A 12 s.q ft. gasoline pan fire was fought with standard soda-acid, carbon tetrachloride, and "Foamite" hand extinguishers. Only the foam extinguisher could put the fire out.

No. 2. A combination oil, gasoline and ordinary free-burning fire, attacked with double-tank "Foamite" Chemical Equipment mounted on "Childs" Standard Triple Combination.

No. 3. Oil and gasoline fire in 60 sq. ft. pit representing a

At the Amdyco Demonstration.
Top: 43-foot pit fully afire after burning several minutes; Center: Just as the Amdyco foam streams were applied; Lower: Fire out at the end of two minutes and thirty seconds.

typical factory dip tank, extinguished with two "Foamite" Automatic Extinguishers.

No. 4. A 30 diameter pit fire consisting of 400 gallons of light fuel oil and kerosene (donated by oil companies) and 100 gallons of gasoline. Official time for the extinguishment of this fire was one minute and forty seconds. The Foamite Ejector which was used in the above test has not yet been offered for sale.

Illustrations on page 678-d show views taken during the various tests of the Foamite-Childs apparatus.

Amdyco Test

The Amdyco Continuous Foam Generator was next demonstrated, a pit of 43 ft. in diameter containing a total of 1100 gallons of fuel oil, lard oil, gasoline and crank case oil having been prepared for the purpose. The oil was set off and allowed to burn several minutes before making an effort to extinguish it. Time recorded for the extinguishment was two minutes and thirty seconds, 4800 gallons of foam being used.

Snapshots on page 671 show the test of the Amdyco equipment at the 43 ft. pit.

Wednesday Devoted to Exhibits

Wednesday evening was devoted to inspection of exhibits by the chiefs, the Manchester Fire Department Band furnishing music during the evening.

(*Continued on page 677*)

THOSE WHO ATTENDED THE NEW ENGLAND FIRE CHIEFS' CONVENTION

Adams, George F., Chief, Exeter, N. H.
Adams, Joseph C., Ex-Chief, Pittsfield, N. H.
Ahrens, John P., Cincinnati, Ohio.
Alger, Fred B., Middleboro, Mass.
Allen, Franklin B., Chief, Marion, Mass.
Allen, Selden R., Chief, Brookline, Mass.
Andrews, Tyler P., Danielson, Conn.
Austin, C. H., Nashua, N. H.
Austin, George W., Boston, Mass.
Baker, Ellsworth, Chief, Attleboro, Mass.
Bartlett, Ernest N., Chief, Billerica, Mass.
Barton, R. W., Chief, Foxboro, Mass.
Batchelder, Earl H., Chief, Centerdale, R. I.
Belcher, E. Foster, Winthrop, Mass.
Belcher, Warren H., Chief, Winthrop, Mass.
Belknap, Harry, Boston, Mass.
Benson, Fred E., New York, N. Y.
Bills, Louis W., Supt. F. A., Lexington, Mass.
Blair, William J., Nantucket, Mass.
Blanchard, Arthur H., Cambridge, Mass.
Blethen, Chester H., Chief, Auburn, Maine.
Bond, Everett O., Chief, Hyannis, Mass.
Bond, H. L., Boston, Mass.
Bradbrook, G. E., New York, N. Y.
Brauner, Henry A., New York, N. Y.
Browning, Robert, Chief, Central Falls, R. I.
Caldwell, John S., Boston, Mass.
Caracher, R. M., FIRE ENGINEERING, N. Y. C.
Carlow, Harry, Taunton, Mass.
Carroll, William J., Boston, Mass.
Case, I. Herbert, FIRE ENGINEERING, N. Y. C.
Casey, James M., Chief, Cambridge, Mass.
Chadburne, Charles C., Chief, Sanford, Maine.
Charlesworth, Charles, Chief, Providence, R. I.
Charnock, F. C., Boston, Mass.
Chevalier, Albric, Chief, Arctic, R. I.
Clark, Fred A., Chief, Attleboro, Mass.
Clark, W. F., Ex-Chief, Naygatuck, Conn.
Cobb, George F., Traffic Mgr., Boston, Mass.
Coffin, J. A., Boston, Mass.
Colby, Harry E., Chief, Franklin, N. H.
Comins, Charles E., Chief, Warren, Mass.
Cooke, Harry E., Boston, Mass.
Connell, Harry J., Chief, Hudson, N. H.
Cote, A. J., Chief, Woonsocket, R. I.
Crowell, Wendell D., Hancock, N. H.
Crowley, Roger, Ind. Chief, Manchester, N. H.
Cuneo, M. J., Woburn, Mass.
Daley, William F., Chief, Brockton, Mass.
Dauphney, Charles A., Chief, Gorham, N. H.
David, Fred M., Ex-Chief, Groton, Conn.
Day, John H., Lynn, Mass.
DeCourcey, D. A., Chief, Winchester, Mass.
Deibel, Andrew F., Cambridge, Mass.
Dezotell, B. W., Boston, Mass.
Dobbratz, Fred L., Boston, Mass.
Dolley, Herbert A., Chief, Tilton, N. H.
Donovan, J. F., Chief, Meriden, Conn.
Donaher, A. M., Boston, Mass.
Donovan, Raymond F., Quincy, Mass.
Doran, Andrew T., Chief, Turners Falls, Mass.
Dow, Clinton L., Ind. Chief, Manchester, N. H.
Doyle, John P., Ex-Chief, Wellesley, Mass.
Drew, C. R., Chief, Kingston, Mass.
Driscoll, Timothy E., Chief, Peterboro, N. H.
Duchesneau, J. E., Chief, Southbridge, Mass.
Dunnigan, F. P., Chief, Westport, Conn.
Dyer, S. B., Ex-Chief, Whitman, Mass.
Edmunds, W. S., Chief, Pembroke, N. H.
Edwards, Fred A., Melrose, Mass.
Edwards, J., Boston, Mass.
Egger, George, Chief, Westerley, R. I.
Emerson, Harry D., Hudson, N. H.
Endicott, Charles K., Chief, Canton, Mass.
Erickson, John O., Chief, Newburyport, Mass.
Estabrook, A. Ralph Chief, Newton, N. H.
Estabrook, Willard W., Brookline, Mass.
Fallon, M. J., Indus. Chief, Watertown, Mass.
Fay, Clarence D., Chief, Hinsdale, N. H.
Fay, Robert E., Boston, Mass.
Fischer, Fred, New York, N. Y.
Fitzgerald, Timothy J., Chf., Naugatuck, Conn.
Floyd, Frank L., Chief, Manchester, Mass.
Flynn, D. W., Chief, Great Barrington, Mass.
Fogarty, Michael, North Providence, R. I.
Fortin, Charles E., Chief, Lewiston, Maine.
Fowler, Albert A., Chief, Gardner, Mass.
Foy, Albert R., Chief, So. Manchester, Conn.
French, Charles H., Chief, Manchester, N. H.
Fuller, Charles H., Chief, Pawtucket, R. I.
Gardiner, Warren B., Chief, Saylesville, R. I.
Gately, John J., Ind. Chief, Watertown, Mass.
Germond, George, Boston, Mass.
Gisborne, F. R., Chief, Sound Beach, Conn.
Glynn, Theodore A., Boston, Mass.
Gorham, Joseph T., Boston, Mass.
Graham, Fred D., Chief, Wakefield, Mass.
Grant, E. H., Jr., Norwood, Mass.
Greene, William C., Chief, Concord, N. H.
Griswold, A. A., Chief, East Providence, R. I.
Guerin, Fred J., Chief, St. Albans, Vt.
Guertin, Wm. H., Supt. Prot. Dept., Worcester, Mass.
Gunther, Frank H., Ex-Chief, Methuen, Mass.
Hall, Frank P., Chief, Athol, Mass.
Hanna, James F., Milton, Mass.
Hannigan, John J., Chief, Norwood, Mass.
Hardy, J. M., Boston, Mass.
Harrison, Frank R., Chief, Onset, Mass.
Hayes, John H., Chief, Bristol, Conn.
Hawkins, William H., Chief, Haverhill, Mass.
Heitman, Henry H., Chief, Waterbury, Conn.
Heney, John C., Chief, Barre, Vt.
Hilchey, Hard D., Chief, Manchester, N. H.
Hildreth, Alfred F., Chief, Hollis, N. H.
Hill, William H., Chief, Belmont, Mass.
Hiller, Albert E., Chief, Plymouth, Mass.
Holmes, J. Harry, Chief, Milton, Mass.
Hopkins, G. H., Portland, Maine.
Horne, William D., Chief, Millbury, Mass.
Hough, Willis P., Chief, Lebanon, N. H.
Hoyt, Rev. H. Chester, Beverley, Mass.
Hubbard, Isaac M., Greenwich, Conn.
Hurley, Patrick J., Chief, Holyoke, Mass.
Hutchinson, F. A., Chf., White River Jct., Vt.
Hutchinson, Thomas G., Greenwich, Conn.
Hyatt, Henry J., Chief, Fitchburg, Mass.
Jenkins, Allen, Shrewsbury, Mass.
Johnson, Daniel E., Chief, Bridgeport, Conn.
Johnson, George L., Chief, Waltham, Mass.
Jones, Elan B., Chief, W. Springfield, Mass.
Joy, Mellen R., Chief, Saugus, Mass.
Judson, Allen D., Chief, Stratford, Conn.
Keane, John W., Marlboro, Mass.
Keene, John H., Allston, Mass.
Kelley, Joseph E., Chief, Danvers, Mass.
Kelley, Patrick J., Chief, Apponaug, R. I.
Kellogg, Samuel E., Chief, Hopedale, Mass.
Kennedy, John J., Ind. Chf., Bridgeport, Conn.
King, Herbert E., Chief, Mansfield, Mass.
Kleinfelder, Henry C., Boston, Mass.
Koltonski, Alfred H., Chief, Rutland, Vt.
Knowles, C. H., Chief, Hamilton, Mass.
Lane, Charles E., Chief, Orange, Mass.
Lawrence, Edward W., Worcester, Mass.
Lawton, Joseph S., Newport, R. I.
Leonard, F. A., Chief, Taunton, Mass.
Lewin, Charles H., Chief, Hanover, N. H.
Lewis, George E., Chief, Newport, N. H.
Lewis, Percy R., Chief, Ashland, N. H.
Lewis, H. W., Worcester, Mass.
Lintott, Herbert C., Nashua, N. H.
Logan, Edward A., Chief, Shrewsbury, Mass.
Looney, Daniel J., Boston, Mass.
Lord, Gerald H., Boston, Mass.
Lovell, J. H., Boston, Mass.
Mahoney, T. H., Chief, Westfield, Mass.
Mahoney, W. C., Chief, Peabody, Mass.
Marchant, Homer R., Chief, Gloucester, Mass.
Martin, H. M., Chief, Enosburg, Vt.
Maxim, C. W., Chief, Middleboro, Mass.
Maxim, E. L., Middleboro, Mass.
McCarthy, Charles L., Chief, Worcester, Mass.
McCarthy, Justin A., Boston, Mass.
McCarthy, George S., Lewiston, Maine.
McCorkle, W. J., Boston, Mass.
McGonigle, Michael, Boston, Mass.
McPhee, Michael, Chief, Lawrence, Mass.
Mead, Alfred L., Chief, Quincy, Mass.
Merchant, Walter H., Jr., Boston, Mass.
Milliken, Elbridge H., Boston, Mass.
Milne, George B., Chief, Rockville, Conn.
Minehan, Edw. C., Ex-Chief, Marlboro, Mass.
Mitchell, Melvin P., Chief, Hudson, Mass.
Monast, Wilfred A., Chief, Warren, R. I.
Montgomery, H. E., Chief, Pittsfield, N. H.
Montmeny, Arthur, Chief, Chicopee, Mass.
Moran, John C., Chief, Hartford, Conn.
Moore, Edwin D., Bennington, Vt.
Morris, F. J., Ex-Chief, Lawrence, Mass.
Moulton, E. G., Worcester, Mass.
Murray, F. A., Boston, Mass.
Murray, H. T., Utica, N. Y.
Nash, Carroll M., Chief, Dover, N. H.
Neary, John H., Chief, Natick, Mass.
Newhall, Terry A., Lynn, Mass.
Newman, Frank C., Chief, Melrose, Mass.
Newman, William E., Chief, Hillsboro, N. H.
Nichols, Daniel A., Chief, Barrington, R. I.
Nichols, Geo. W., Supt. F. A., Woburn, Mass.
Nicolls, John T., Chief, Malden, Mass.
Noble, W. F., Chief, New Britain, Conn.
O'Day, James P., Bridgeport, Conn.
O'Hearn, John W., Chief, Watertown, Mass.
O'Keeke, V. P., Ex-Sup. F. A., Peabody, Mass.
O'Neill, Edward J., Cambridge, Mass.
Olson, Albert T., Walpole, Mass.
Pachl, John S., Ex-Chief, New Haven, Conn.
Packard, H. R., Ex-Chief, Attleboro, Mass.
Palmer, John A., Chief, Torrington, Conn.
Parenteau, Eugene, West Warwick, R. I.
Parker, P. Hildreth, Belmont, Mass.
Partenhemer, Philip, Chief, Greenfield, Mass.
Patt, Irving F., Ex-Chief, Central Falls, R. I.
Pattee, P. W., Chief, Goffstown, N. H.
Pease, A. W., Chief, Lee, Mass.
Perry, Cyrus, New York, N. Y.
Peterson, Leon A., Chief, Whitman, Mass.
Pierce, Walter, Ex-Chief, Arlington, Mass.
Pigeon, A. H., Chief, Ware, Mass.
Pitt, George S., Chief, Middletown, Conn.
Poor, J. H., Jr., Supt. F. A., Winthrop, Mass.
Pratt, Herbert K., Bridgewater, Mass.
Preble, A. G., Burlington, Vt.
Qualey, Thomas, Chief, Medford, Mass.
Quinlan, Henry M., Dorchester, Mass.
Rees, John H., New York, N. Y.
Reif, Lawrence E., Chief, New Haven, Conn.
Rhodes, John E., Saylesville, R. I.
Rich, S. M., Chief, Somerville, Mass.
Richardson, Irvon F., Portland, Maine.
Ricker, Eugene T., Chief, Biddeford, Maine.
Riley, E. B., Chief, Keene, N. H.
Riley, Frank E., Middleboro, Mass.
Robinson, George E., Concord, N. H.
Robinson, Stanley, Worcester, Mass.
Russell, F. A., Ex-Chief, Leominister, Mass.
Sanborn, Oliver T., Chief, Portland, Maine.
Sargent, Fred M., Chief, Sunapee, N. H.
Saunders E. F., Chief, Lowell, Mass.
Savage, John A., Valley Falls, R. I.
Schellin, John C., Wooster, Ohio.
Schleinitz, William, Dayton, Ohio.
Scully, John J., Boston, Mass.
Seagrave, Harold J., New York, N. Y.
Sears, C. E., Chief, Claremont, N. H.
Seaverns, Ernest A., Chief, Scituate, Mass.
Sennott, Daniel F., Chief, Boston, Mass.
Shepard, W. C., Chief, Pittsfield, Mass.
Sheppard, Fred, FIRE ENGINEERING, N. Y. C.
Shipman, Thomas H., New London, Conn.
Sloan, William W., Chief, Amherst, N. H.
Small, Roy K., Chief, Augusta, Maine.
Smith, George W., Chief, Wakefield, R. I.
Smith, James E., Chief, Nashua, N. H.
Smith, Lowndes A., Jr., Cranston, R. I.
Souliner, John E., Chief, North Adams, Mass.
Spaulding, H. C., Cambridge, Mass.
Spellman, E. J., Boston, Mass.
Spring, Arthur W., Chief, Laconia, N. H.
Stevens, George B., Chief, Kingston, N. H.
Stone, E. V., Chief, Ludlow, Mass.
Sylvester, Clarence N., Boston, Mass.
Taft, Frank, Boston, Mass.
Tappen, Robert M., Gardner, Mass.
Thompson, H. E., Sup. Pr. Dpt., Boston, Mass.
Thurston, Ralph E., Chief, Putnam, Conn.
Tierney, Daniel B., Chief, Arlington, Mass.
Tiffany, F. M., Ex-Chief, Boston, Mass.
Tighe, William A., Ind. Chief, Boston, Mass.
Tourtellotte, Fred F., Springfield, Mass.
Tracey, Frank E., Chief, Woburn, Mass.
Tracey, Hubert W., Boston, Mass.
Turner, Harry M., Chief, Springvale, Maine.
Van Valen, Alfred, Boston, Mass.
Veit, Victor H., Chief, Stamford, Conn.
Ward, Thomas G., Chief, Shelton, Conn.
Ware, R. W., Boston, Mass.
Warnock, James, Chief, Swampscott, Mass.
Webber, Joseph A., New York, N. Y.
Weekes, Reuben, Ex-Chief, Providence, R. I.
Wells, Ray D., Chief, Falmouth, Mass.
Wedger, Walter L., Belmont, Mass.
White, Arthur B., Worcester, Mass.
White, Ewart B., Boston, Mass.
White, Herbert P., Chief, Groton, Conn.
White, Ralph H., Chief, Auburn, Mass.
Whiting, Alfred C., Boston, Mass.
Whiting, H. B., Chief, Hampton Beach, N. H.
Whitney, Charles A., New York, N. Y.
Williams, E. W., East Lynn, Mass.
Wood, Robert M., Boston, Mass.
Woods, William F., Chief, Portsmouth, N. H.
Woodward, A. P., Chief, Danielson, Conn.
Young, Daniel F., Chief, Cranston, R. I.

WITH THE EDITOR

Properly Classifying Him.

Press reports recently contained details of a large western city wherein the city councilmen in order to save a little money decided to drop eighteen men from the fire department.

Doubtless they will accomplish their purpose, but what sacrifice will they have to make?

It's too late to strengthen the fire department when the city is suffering a great conflagration! It's too late to try and muster up trained men when the buildings of the city are melting away under the advancing heat of a big fire.

Councilmen who endorse cutting down the personnel of a fire department which is undermanned, if anything, belong in the class with other common causes of fire loss.

The cartoon herewith, drawn for FIRE ENGINEERING

by "Art" Espey, well illustrates the position of the councilman who would cut down the fire force to save money.

The Movies as an Element in Fire Carelessness

The motion picture, if its influence is spread in the right direction, can become a great power for good. It also has great possibilities in the wrong kind of education, if the scenes depicted tend to viciousness and wrong doing. This is particularly true in matters of fire prevention.

To realize the force of this fact one has only to note how motion picture performers invariably throw aside or over their shoulder a burning match, when their particular act calls for the lighting of a cigarette or a cigar?

Of course there are instances where "business" such as this would be appropriate if the story or the plot called for a fire, as is sometimes the case, but it seems to be the exception in all pictures where cigarettes are lighted, if the smoker places the match stem in an ash tray or other safe receptacle.

What is the effect of this careless indifference?

Millions of movie patrons in this country, every day and every night of the year, observe this flagrant carelessness and become accustomed to it. We know of no better or more potent public medium with which to teach carefulness and safety than the motion picture, or per contra, to instil habits of carelessness.

A splendid opportunity to act as a leader in the education of the public in case where fire dangers are concerned, is thus being passed up by the motion picture industry, through lack of care in arranging such scenes.

Think of how the public, and particularly the younger folks who have just started to smoke, would by such an example, be unknowingly schooled in safety, if every time they saw a reel unwound on the silver screen, they witnessed the villian or the hero carefully place the match in some sort of receptacle, instead of tossing it and never looking to see where it landed.

It would not detract from the tenseness of a "situation" in the play, if the match were placed on the table or thrown into the fireplace. The tragedy about to be enacted, or the show-down about to be made, would not be lessened in pulsations of the breathless audience, if Mr. Hero or Mrs. Villianess, after lighting up, put the flaming stem down somewhere, instead of throwing it in back of them with an air of criminal carelessness.

The movie censors do not tolerate gun-fire when a criminal scene is depicted. They stand for the appearance of a glass bottle, but never show the "unfortunate girl" drinking the poison. They permit a pistol in the hand of the burglar, but "cut" the actual "shooting" of his victim.

This is all very commendable and is done in the interest of public morals—why not the same safeguards in the interest of public safety from fire and in the public service of teaching carefulness by example?

Reaching a New Field

The Fire Equipment Manufacturers Institute has formulated plans for a nation-wide drive to develop fire protection in the home through selling the housewife on the necessity of having a fire extinguisher always on hand.

The plans have reached the stage where money has already been voted to carry out the work. It is reported that nearly a half million dollars will be available for telling the story of fire protection to women.

While it is entirely a commercial proposition on the part of the Manufacturers Institute, nevertheless a great deal of good will be accomplished in the cause of fire prevention by the institute's action. If the housewife can be thoroughly sold on fire protection, a very large step will have been taken towards the reduction of fire in the class of buildings which total annually the greatest number of fires.

Two Prominent Chiefs on Editorial Board

Chief Kenlon, of New York, and Chief Moran, of Hartford, Added to Fire Engineering Advisory Board

IT is with great pleasure that FIRE ENGINEERING announces the addition to its Editorial Advisory Board of two leaders in the Fire Fighting Profession, Chief John Kenlon, of the New York City Fire Department and Chief John C. Moran, head of the Hartford, Conn., Fire Department. This board, it has been recognized, must be representative in its personnel of the very best thought in all branches of the Fire Protection Field, and this idea has been kept in mind in choosing these new members of the board.

Chief John Kenlon,
New York, N. Y.

Chief John Kenlon

Chief John Kenlon who has the distinct honor of serving for a greater period as chief of the New York city fire department than any of his predecessors, was born in Dublin fifty-four years ago. He came to the United States when he was three years old.

A good part of his early life was spent in the marine service. Before resigning from his roving duties, he held a license as chief engineer and a master's license.

His first assignment in the New York fire department was to Engine Company No. 24 on Morton street. In about ten years, he was promoted to foreman of Company 2, and on December 15, 1903, he became battalion chief of the second district. A year later he was made chief of battalion No. 19, comprising the fire boats. When the marine division was created on December 22, 1908, he was placed in command as deputy chief. Upon the resignation of Chief Edward F. Croker on April 17, 1911, Chief Kenlon was made acting chief. On August 1 of the same year, he was successful in making the highest mark in examination for chief and was thereupon appointed head of the department.

Chief Kenlon, when preparing for examination, showed his broad calibre by turning over to some of the other candidates, who were preparing for the same examination, the very notes and literature he was using himself. It was all the more to his credit that he led the list.

He is the author of "Fires and Fire Fighters" and "Fourteen Years a Sailor," two books which have enjoyed unusually wide distribution. Chief Kenlon is past president of the International Association of Fire Engineers, and has made many important contributions towards the advancement of the art of fire-fighting. Probably his greatest contribution to the fire service of this country was the New York Fire College, which he founded and after which are patterned fire department schools throughout the country.

The many other developments benefiting fire departments which originated with Chief Kenlon are quite well known by readers of this journal and, therefore, need no mention here.

It might be added that under Chief Kenlon the New York Fire Department has been brought to a high state of efficiency never before equalled. Due to his insistence for mental as well as physical training for his men, he has developed a department which can truly be said to fight fires scientifically.

FIRE ENGINEERING is indeed happy to welcome this leader in the field of fire fighting and fire prevention to its Advisory Board.

Chief John C. Moran

John C. Moran, who is chief of the fire department at Hartford, Conn., has been on various committees and associated with the large fire chiefs' organizations for the propagation of data on firemanic matters.

When Chief Kenlon was president of the International Association of Fire Engineers, Chief Moran was appointed in charge of the committee on Drill Schools, Drills and Training. His paper on that subject, which was published in the 1920 proceedings of the association, is considered a classic in that field.

Chief John C. Moran,
Hartford, Conn.

Chief Moran was one of the founders of the New England Association of Fire Chiefs, was its first vice-president and served as president of the association at its second convention. At its first annual gathering he was chairman of the exhibit committee and the record that he established in this capacity, has been somewhat of a pace-setter for others to follow. He has been prominently identified with all of the local chiefs' associations of his section of the country, as well as the International Association.

FIRE ENGINEERING highly appreciates Chief Moran's acceptance of a place on its Advisory Board as an indication of his confidence in the service this journal is rendering the fire field.

QUESTIONS AND ANSWERS

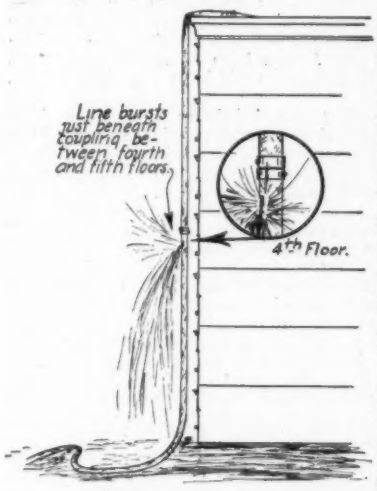
Conducted by FRED SHEPPERD, B. Sc., M. E.

"He that questioneth much shall learn much"—BACON

NOTE—Readers of FIRE ENGINEERING are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified.

Replacing Burst Hose

In the May 25 issue of FIRE ENGINEERING, there appeared an answer to the following question:



You are working on the roof of a seven-story building and the line burst between the fourth and fifth floors. Answer "true" or "false" to this statement, "Shut off the water. Disconnect the line on the ground as near the building as possible and put two new sections into the line at this point. Pull the line to the roof, remove the bursted section, reconnect the line and order the water turned on."

The correct answer would be "true." Many of the readers could not follow the analysis of this answer. In fire department work it is always necessary to assume the worst condition. In this instance, it is the case where the hose bursts below the coupling as illustrated in the sketch.

Assume the height of each floor as twelve feet. This would figure that there is about forty-five feet of hose hanging from the cornice of the building to the point in question, and allowance must be made for several feet from the cornice to a point on the roof. If only one length of hose was inserted, when the line was hoisted up, the burst section would come just below the cornice—the insertion of two lengths of one hundred feet, would enable the damaged section to be taken out of the line, when the entire line was hoisted to the roof. The sketch will help one to better follow the analysis of the problem.

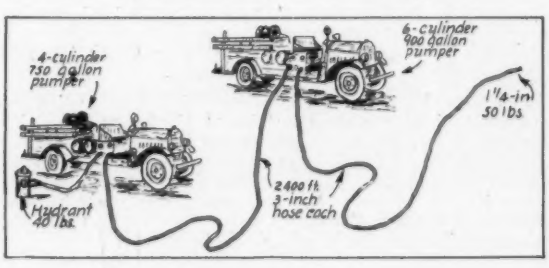
Place Larger Engine at Center of Line

To the Editor:

In the April 25th issue of FIRE ENGINEERING a question was asked about relaying water 4,800 feet, having two engines at 4 cylinder and a 6 cylinder pumper. Should the 4 or the 6 cylinder pumper be at the hydrant?

Your answer was that the smaller should be at the hydrant. We have tried to prove this with figures and would thank you to correct same and put us on the right track.

It is desired to send water through 4,800 feet of hose which we assume to be 3 inch hose as it would be impossible with 2½ inch hose. We assume also that the 4 cylinder pumper is rated at 750 gal. per minute at 120 pounds pressure and the 6 cylinder at 900 gal. per minute at 120 pounds pressure, and that 40 pounds pressure is at the hydrant and 50 pounds is desired at the 1¼ inch nozzle. The sketch therefore looks like this:



An assumed engine pressure of 275 at the first engine which includes the 40 pounds pressure on the hydrant will be used.

Now if the engine gives 750 gal. per minute at 120 pounds, it will give 327 g. p. m. at 275 pounds. Found by (750 x 120) divided by 275.

The first engine is therefore sending 327 gallons of water through the hose to the second engine at a pressure of 275 pounds.

Friction loss is found by 2 Q^2 plus Q equals 25 pounds per 100 feet of 2½ inch hose. As the hose is 3-inch it is reduced to 2½ inch by dividing by the factor 2.6 giving 925 feet of 2½ inch hose. If the friction loss is 25 pounds per 100 feet it will be 9.25 x 25 or 241 pounds.

The engine is working at 275 pounds and 241 pounds are lost by friction so therefore the second engine is receiving the difference between 275 and 241 or 34 pounds.

The second engine must work at a pressure to overcome the same friction loss as the first so the layout is the same and in addition it must be able to supply 50 pounds at the 1¼ inch nozzle. Therefore the pressure at the second engine must be 291 pounds and this includes the 34 pounds at which it receives its water from the first engine.

Now to see if the second engine can do this. At 50 pounds on a 1¼ inch nozzle there will be a discharge of 30 x D^2 x P or 327 gallons.

The second engine is rated at 900 gal. at 120 pounds; at 291 pounds it will discharge 900 x 120 divided by 291 or 375 (approximately) gal. per minute.

The figures show that 327 gallons are being discharged from the nozzle and that the engine is capable of discharging 375 g. p. m. which seems to mean that such a stretch and such pressures are possible.

We have worked the problem using the larger engine at the hydrant and at this stretch it is impossible.

Would thank you to correct the same or if entirely wrong put us on the right track.

Very truly yours,
J. H. F.,
April 27, 1926,
Bronx, N. Y. City.

Answer: Your solution is very interesting and deserves commendation. There is, however, one slight error which deserves a word of explanation.

This is in connection with the paragraph of your letter as follows: "Now if the engine gives 750 g. p. m. at 120 pounds, it will give 327 g. p. m. at 275 pounds. Found by 750 x 120 divided by 275."

Note in the preceding paragraph that you state the 275 pounds is made up of the engine pressure plus 40 pounds at the hydrant. In other words the engine is actually giving you only 235 pounds pressure. The capabilities of any motor fire engine in the way of discharge of pressure are determined by the power of the motor. The 40 pounds pressure at the hydrant, therefore, does not enter into consideration at all insofar as determining what the engine discharge at the other pressure would be. Thus you must figure on an engine pressure of 235 pounds in determining what the flow would be at this pressure, instead of 275 pounds.

You will appreciate this when it is remembered that the 40 pounds in the hydrant is a direct help to the engine and practically reduces the pressure which the engine must develop through its motor by 40 pounds.

Now, working along this new pressure the problem would prove out in precisely the same manner as you have shown by your calculations, but it would be necessary to run the first engine at a slightly higher pressure. Operating the first engine at 245 pounds pressure which it develops plus the 40 pounds at the hydrant we would have a discharge pressure of 285 pounds.

At this pressure the discharge should be in the neighborhood of 368 pounds, found by the rule you give for determining the discharge of the engine at other than capacity pressure.

Now with this flow the friction per 100 feet of hose would amount to approximately 30 pounds per 100 feet. With your 925 feet of 2½ inch hose (equivalent to 2,400 feet of 3 inch) the friction loss would be 277.5 or approximately 278 pounds.

Discharge pressure is 285 pounds, and the friction loss is 278

pounds, leaving a pressure of 7 pounds at the end of the line of hose delivering water to the second engine.

Where a 1¼ inch nozzle is used and discharging 368 gallons per minute, the nozzle pressure will be approximately 64 pounds.

The friction loss in the second line of hose—from the second engine to the nozzle will be the same as in the first line, 278 pounds. To this must be added the nozzle pressure 64 pounds giving a total of 342 pounds which must be on the discharge side of the second engine to give 64 pounds at the nozzle and overcome the friction in the hose.

But there is seven pounds pressure on the intake side of the second pumper and deducting this from the 342 pounds leaves 335 pounds which the second engine must create.

Now a 900 g. p. m. pumper at 120 pounds should deliver at 335 pounds about 320 gallons. This, it will be seen, is less than the engine must deliver under the particular assumptions. If a 1,000 gallon pump were used the discharge, at 335 pounds, 360 gallons per minute, would be sufficiently near to the calculated flow to properly check up.

Note in this solution that, as stated in the original problem, the second engine must deliver more power. This is shown by the fact that the second engine delivers its water at a pressure of 335 pounds while the first engine delivers it at a pressure of 285 pounds.

This, briefly, explains the reason for placing the larger engine in the center of the line in this particular layout.

Modern Fire Alarm Signalling

(*Continued from page 668*)

E. Short circuit in the machine. Test out with test lamp and locate the short and correct same.

Generator does not generate.

A. Load switch open. Close to correct.

B. Brushes are not riding on the commutator. Set the brushes correctly.

C. Dirty commutator. Clean and polish.

D. Open field or armature. Test out with a test lamp and correct the trouble.

Generator gives low voltage.

A. Bearings too tight not allowing machine to get up speed. Loosen the bearings until machine runs free.

B. Motor connected wrong. Connect for right voltage.

C. Dirty commutator. Clean and polish commutator.

D. Too much resistance cut in on the rheostat. Cut out resistance until desired voltage is reached.

Voltage test reading is reverse.

A. Generator leads are reversed. Correct by reversing generator leads at the switchboard or generator.

B. Reverse current residual magnetism. Take off generator end housing and disconnect the wires coming from the field coils. Take one end of the field coil wire and attach it to a 12 or 24-volt battery and take other field coil lead and touch it to the battery. This is done very quickly several times. Be sure that you have the right poles on the battery connected to the coil wires. After you have shocked the coils, assemble the machine and try it, if it still reads backward try the same test again by reversing the battery leads this should make the generator give right readings—if it does not, have a trouble man from the company you bought the machine from, look it over and fix it up for you, or send the machine back to the factory. A relief machine should be obtained first to carry the load until the other is repaired.

C. Short circuited armature. Have armature rewound. These troubles can be avoided by giving the machine a overhaul once each year and giving them good service at all times. By that we mean to wipe up the machine at least once each week. See that the oil cups are filled. Also see that the commutator is clean and bright and free from grease and oil at all times. Look over the brushes once each month.

For the benefit of those who wish to overhaul their generator sets as spoken of here I will give them an idea of what is to be done and what should not be done. When starting to dismantle the machine first take the shaft connection apart, that is, the two discs holding the motor and generator shafts together. Next unscrew the base bolts holding the motor to the base if found on your machine taking motor to a workbench where you can work easily and quickly. Drain the oil from the bearings if you have that type of machine; if you have the wick oilers take them out and take the old grease or vaseline out and wash them in gasoline and put them up to dry. Next take off the four nuts you will find on either end of the machine and then take the end housing off. You can also take the brushes out and clean them or replace them with new ones if they are worn and scratched. Take the armature out of the machine and brush and blow the dirt and dust out of it. Take a fine paint brush and clean all the dust and dirt out of the housing and field coils of the motor and look for loose wire or bare ones at this time correcting if you find any. Obtain a bellows and blow out the dust remaining in the machine. Reassemble the machine and be sure you get everything as before, putting the brushes in with the curve part resting on the commutator as before. Refill with oil and turn the machine by hand making sure that the machine turns free. If of the wick type oilers fill with vaseline and put back in machine as before. Next put the machine back on the base and screw down. Take a fine piece of sandpaper and polish up the commutator.

Take the generator out and do the same thing as you did with the motor being very careful to note any fault or defect and correct it. When the set is complete and overhauled, be sure that it is bolted down secure and that the shafts turn loose as before. Start the generator and watch it for a half hour or so noting any heating or fault which should happen to arise. On generators which have a clutch in them be sure that you get the clutch put back in so as it operates correctly.

It will be necessary to disconnect the wiring to do as described above, but a very satisfactory job can be done without taking the machine off the base. It is better to overhaul the machine on the base than not at all. Always keep the machine well oiled and free from dirt and dust and you will have very little trouble.

Rectifiers.

We will treat this subject very briefly as there are perhaps only one or two instances where a rectifier will be used. They can be obtained to give an amperage of 7.5 amps but the voltage is mostly always below 100 volts; only one or two sets of battery can be used on this type of charging equipment. I will describe the theory of the rectifier of the mechanical type and will not give any detailed account as to the setting up etc., as they can be place most anywhere on the floor or on a helf etc.

The principle upon which the vibrating type of rectifier works is as follows. A small transformer serves to reduce the alternating current line voltage to a suitable value. Two alternating current magnets are connected across one half of the low voltage winding and are so arranged as to present at any instant poles of like polarity before those of a steel magnet which is excited from the battery. Hence during one half of the cycle of the alternating current, one of the poles of the pivoted magnet will be attracted and the other will be repelled; the opposite action will take place during the other half of the cycle.

The pivoted magnet is connected to one terminal of the battery and the other terminal of the latter is connected to the middle point of the low tension winding of the transformer.

Two platinum contacts carried on the pivoted magnet are thereby brought alternately in contact with the other two contacts connected to the low voltage terminals of the transformer. It is of no importance which terminals of the battery are connected to the binding posts of the apparatus, since the winding of the pivoted magnet automatically determines the polarity of the binding posts.

A properly designed vibrating transformer will not spark a great deal and if such should happen the points or contacts will be burnt off in a very short time. To secure sparkless operation contact should be broken when the current falls to zero and should be made again at the moment the instantaneous value of the alternating current wave, is equal to the E. M. F. of the storage battery.

The next article will take up manual storage battery switch boards.

Firemen Killed in Apparatus Crash

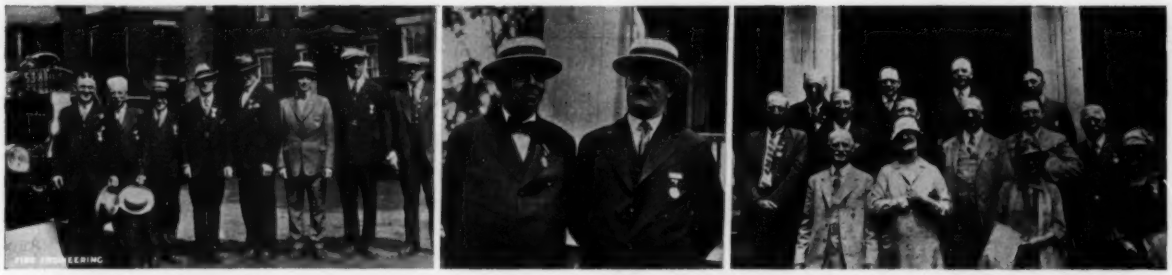
When the driver of a New York city engine company that was on the way to answer a fire alarm, swerved his apparatus suddenly in order to avoid striking the driver of a motorcycle that was coming towards him, the men were thrown from the apparatus to the ground. Two were killed and three, including the motor cyclist, were injured; one is reported as very low.

The cyclist, it is claimed did not hear the bells of the approaching fire company, and when it was too late, both made valiant attempts to avoid the collision. The motor cycle struck the fire engine a glancing blow and became entangled in it. One fireman killed was the driver of the apparatus.

As is always the case in fatal accidents of this kind, the company was responding to extinguish a fire of a trivial nature—a fire in a bus belonging to the Fifth Avenue Coach Company.

Battleboro, Vt., Purchases Pumper—A 750-gallon Seagrave pumper has been placed in service at Battleboro, Vt. The apparatus is equipped with an 80-gallon booster tank.

Nyack, N. Y., Error Corrected—In a previous issue, it was reported that Captain Babcock of Nyack, N. Y., was presented with a hat by friends. The presentation was made by Capt. Johnston of Salvage Patrol No. 1, of New York; Capt. Babcock is an officer of the Nyack, N. Y., fire patrol.



Left—A big Mack fire truck en route to convention brought these folks 60 miles to Manchester after their own car broke down. In the group are Mayor J. P. Cameron, Commissioner S. McCoy and Chief George Milne of Rockville, Conn., Chief George Pitt of Middletown, and Chief A. Foy of So. Manchester.

Center—Chief Selden R. Allen (right) of Brookline, Mass., with his Commissioner, W. W. Easterbrook.

Right—The Vermont Delegation. Front Row Left to Right—E. D. Moore, Bennington; Mrs. C. E. French, Manchester; Mrs. E. D. Moore and Mrs. F. M. Tiffany, Bennington. Middle Row—Ex-Chief H. M. Martin, Enosburg Falls, Vt.; Chief F. J. Guerin, St. Albans; Chief F. A. Hutchinson, White River Junction; Chief A. H. Koltonski, Rutland; Dep. State Fire Marshal A. G. Preble, Burlington. Rear Row—A. McDonald, M. E. Powers, White River Junction; Chief J. C. Heney, Barre; L. F. Hutchinson, White River Junction.

N. E. Chiefs Gain Third in Membership

(*Continued from page 665*)

Thursday Session

The first paper of the Thursday morning session, was by Irving F. Richardson, Engineer of the Vacuum Oil Company who delivered a very interesting illustrated talk on "Lubrication of Motor Fire Apparatus."

He went into details and explained the causes of troubles with motor fire apparatus particularly insofar as lubrication is concerned and carefully described steps necessary to overcome these troubles.

Wentworth Speaks on Fire Losses

Franklin H. Wentworth followed with a talk on "The Problem of Attack." He believes that the enlistment of children is proving the solution of the fire waste problem.

He also outlined plans for attacking the huge fire losses which occur annually in this country.

In his talk he offered endorsement for the Fire Chiefs' Cabinet, pointing out how the fire department head may reap unlimited co-operation through interesting the industrial heads in his city in the work of the fire department.

Snow Removal

E. F. Lampray, Engineer of the Barber Green Company of Aurora, Ill., who manufactures snow removal apparatus, gave a talk on methods of removing snow from streets. Moving pictures were shown which illustrated quite conclusively the problems encountered in removing snow from streets in the northern part of this country.

I. A. F. E. Motion Picture

Following the talk of Mr. Lampray, Mr. I. H. Case, General Manager of FIRE ENGINEERING, and Chairman of the membership and publicity Committees of the International Association of Fire Engineers, outlined the progress of the motion picture "The Fire Brigades" which is being filmed by the Metro-Goldwyn-Mayer Corporation and of which the International Association of Fire Engineers is to receive one quarter of the net profits.

Mr. Case urged the members of the association to get behind the work the International Association of Fire Engineers is doing so that the fire fighting profession will be enabled to benefit to the greatest extent from this motion picture film.

To Print Papers in Advance

Chief Moran of Hartford made a suggestion which was in the form of a motion that in the future the various papers to be presented at the convention be printed in advance and copies sent to the entire membership so that the various topics can be intelligently discussed. The motion was carried unanimously.

Other Business

Upon invitation from Portland, Maine the convention unanimously voted to meet next year in that city.

Officers elected for the ensuing year were as follows:

President—Chief Charles French, Manchester, N. H.
1st. Vice Pres.—Chief W. C. Shepard, Pittsfield, Mass.
2nd. Vice Pres.—Chief Oliver T. Sanborn, Portland, Me.

The retiring president Chief Daniel E. Johnson of Bridgeport, was presented with a gold badge as a token of the esteem in which he was held by the New England Fire Chiefs Association.

State Vice Presidents elected as follows:

Maine—Chief Chas. E. Fortin, Lewiston.
New Hampshire—Chief Arthur Spring, Laconia.
Vermont—Chief Charles Stockwell, Burlington.
Massachusetts—Chief Selden R. Allen, Brookline.
Rhode Island—Chief Albric Chevalier, Warwick.
Connecticut—Chief Geo. Milne, Rockville.

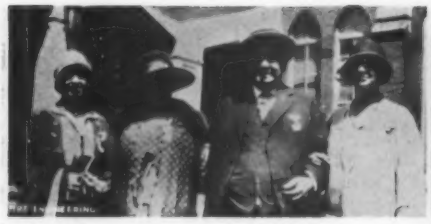
Chief John W. O'Hearn of Watertown, Mass., was re-elected as Secretary and Chief David DeCourcy of Winchester, Mass., as Sergeant at Arms.

The association gave a rising vote of thanks to George Cobb for the efficient manner in which he handled the hotel reservations and transportation details.

A rising vote of thanks was also given to Harry Belknap, press representative of FIRE ENGINEERING, for the splendid publicity work he has done during the past year for the association.

Three of the Many Exhibits in the Armory.

Left: Ahrens-Fox Fire Engine Co.; Center: Eureka Fire Hose Mfg. Co.; Right: Amdyco Corporation.



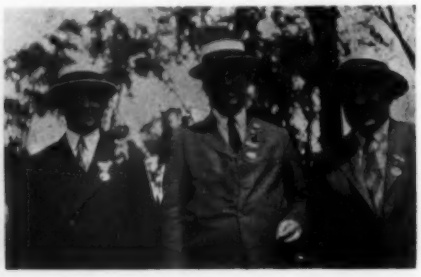
L to R—Mrs. C. R. Drew, Kingston, R. I., Mrs. & Chief W. C. Shepard, Pittsfield, Mass., Mrs. O. T. Sanborn, Portland, Me.

J. C. Schellin, Akron Brass Co.; Justin McCarthy, H. K. Barnes Co.

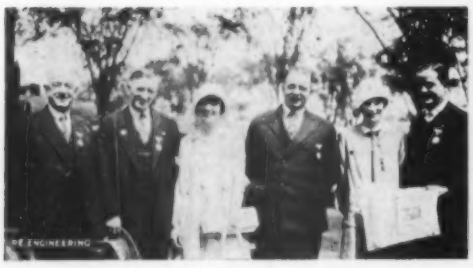
Ex-Chief John P. Doyle, Wellesley, Mass., Chief Selden R. Allen, Brookline, Mass., Miss M. E. Shaw, convention stenographer, and Chief John W. O'Hearn, Watertown, Mass., Secy-Treas.

L to R—Chiefs Arthur Montmeny, Chicopee, Mass.; P. J. Hurley, Holyoke; Geo. L. Johnson, Waltham; T. H. Mahoney, Westfield.

The Pro & Con of Salvage Work—John Ashmead of N. B. F. U., and Chief C. L. McCarthy, Worcester, Mass.

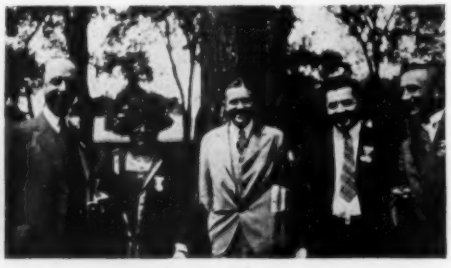


Acting Fire Com'r T. F. Sullivan, Boston; Chief John M. Evans, New Orleans, La., and Former Fire Com'r T. A. Glynn, Boston.



L to R Chief J. M. Casey, Cambridge, Mass.; William A. Tighe, Boston; Miss Casey; Chief Montmeny, Chicopee, Mass.; Miss Kay Sennott, Boston; Capt. David F. De Castro, Panama.

T. P. Andrews and Chief A. P. Woodward, of Danielson, Conn., displayed the latest styles in iron hats.



Mr. & Mrs. A. T. Olsen and nephew, Walpole, Mass., Harold J. Segrave, Mine Safety Appliance Co., N. Y., and Wm. T. Schleinitz, Larkin Co., Dayton, O.

View Inside of Armory Showing a Part of the Large Display of Exhibits. The Armory was Elaborately Decorated.

Big Display of Exhibits

Exhibits at the Manchester Convention of the New England Fire Chiefs Association were beyond expectation.

Most of the large fire apparatus manufacturing companies were represented and a large number of the smaller ones.

All available space in the armory was taken.

A list of those concerns who had exhibits is given below:

Eureka Fire Hose Co., Boston, Mass., Fire Hose.

Amdyco Corporation, New York, N. Y., Amdyco Fire Foam Engine, Extinguishers, Amdyco Portable Generator.

Boston Woven Hose Co., Boston, Fire Hose, Nozzles, Life Nets, Extinguishers, 2 Northern Motorcycle Pumps, miscellaneous Accessories.

The Gamewell Company, Newton Upper Falls, Mass., Fire Alarm Apparatus.

Samuel Eastman Company, Concord, N. H., Nozzles and Nozzle Control Equipment.

C. N. Sylvester, Boston, Mass., Evinrude Pumps.

Petroleum Heat & Power Company, Boston, Mass., Providence, R. I.

New York, N. Y., Service Unit Oil Burning Equipment.

Johns-Manville, New York, N. Y.

Mine Safety Appliance Co., Pittsburgh, Pa., H-H Inhalator, Gas Masks.

Ahrens-Fox Fire Engine Co., Cincinnati, Ohio, 1 Triple Combination Pumper (Booster Equipment and Hose Wagon) built for Attleboro and 1 City Service Truck built for Portland.

Fabric Fire Hose Co., New York, N. Y., Fire Hose.

Haskell Removable Oil Trough Co., Cambridge, Mass., The Haskell Removable Oil Trough.

Holtzer-Cabot Electric Co., Boston, Mass., Fire Alarm Apparatus.

International Motor Company, 1 Triple Combination Truck.

American Fire Equipment Co., Boston, Mass., Fire Hose, Sterling Sirens, Chemical Hose, Extinguishers, Nozzles, and miscellaneous accessories.

C. G. Braxmar Co., New York, N. Y., Fire Department Badges.

McNeil & Olson Company, Dayton, Ohio, Nozzles, etc.

Akron Brass Mfg. Co., Wooster, Ohio, Fire Department Brass Goods.

Henry K. Barnes & Co., Boston, Mass., Fire Hose, Extinguishers, Fire Department Brass Goods and miscellaneous accessories.

D. E. McCann Sons, Portland, Me., 1 Truck.

Foamite-Childs Corp., Utica, N. Y.

American-La France Fire Engine Co., Elmira, N. Y., City Service Ladder Truck built for Somersworth, N. H., 1000 gal. Triple Combination Pumper built for Portland, 750 gal. Pumper and Hose Truck for Claremont, N. H., 400 gal. Cosmopolitan.

The Seagrave Corporation, Columbus, O., 750 gal. Triple Combination Truck and 1 Suburbanite.

Maxim Motor Co., Middleboro, Mass., 1 City Service Ladder Truck built for Watertown and 1 Triple Combination Truck built for Marion.

Duncan McAuley, Manchester, N. H., Mohawk Heavy Duty Tires and Diamond Grip Safety Chains.

L to R—Chiefs J. F. Donovan, Meriden, Conn., Victor Vert, Stamford, Conn., Wm. F. Noble, New Britain, Conn.

Chiefs Daniel F. Sennott, Boston, L. E. Reif, New Haven, Conn.

Ex-Chief F. J. Morris, Lawrence, Mass., Chief John M. Evans, New Orleans, La., and George Cobb, Boston, Association Traffic manager.

L to R—A. B. Crossman and Fred. Bensen, Eureka F. H. Co., Chief F. P. Dunnigan, Westport, Conn., John Ashmead, National Board, and R. A. Glenn, Bridgeport, Conn.

John P. Ahrens and Harry Carlow, Ahrens-Fox Fire Engine Co.

Ex-Chief & Mrs. J. S. Pachl, Morris Cove, Conn., Chief R. E. Reiff, New Haven; Mrs. & Ex-Chief Murray, Morris Cove.

L to R—Chief C. H. Knowles, Hamilton, Mass., Chief D. E. Johnson, Bridgeport, Conn. (retiring President) and Chief John C. Moran, Hartford, Conn.

E. D. Moore, Bennington, and Chief A. H. Koltonski, Rutland, Vt., Secy & Pres., Vt. State Firemen's Ass'n.

Members of Box 52 Ass'n who looked after registration—Herbert K. Pratt, P. Hildreth Parker, and Geo. W. Austin, all of Boston.

A Vigorous Campaign Against Fire

A vigorous publicity and advertising campaign to awaken the American people to the horrors of fire was decided upon at a convention of the Fire Equipment Manufacturers' Institute in Montreal in the last week in June attended by representatives of about 50 American and Canadian corporations engaged in the manufacture of fire equipment. The program outlined at the convention will necessitate the spending of approximately $500,000 by the fire fighters next year. The Institute itself

At the Foamite-Childs Pit Demonstration.
Upper: 30-foot pit of oil when fire was at its height; Center: Foamite foam ejector; Lower: Two streams of foam directed on fire.

will spend approximately $50,000 to educate the public on fire fighting.

Walter Bauer, president of the Pyrene Manufacturing Company and head of the fire Equipment Manufacturers' Institute, presided at the convention, which was held at the Windsor Hotel in Montreal, and lasted two days.

Other prominent men attending were: E. G. Weed, President, Pyrene Manufacturing Company of Canada; C. Cizek, Vice-President, American-LaFrance Fire Engine Company; G. E. Thomas, President, American-LaFrance Company, Canada; R. C. Iddings, President, Fyr Fyter Company, Dayton, Ohio; Dana Estes, President, Knight & Thomas, Boston; Herman Diener, President, George W. Diener Mfg. Company, Chicago and D. S. Hunter, Secretary of the Fire Equipment Manufacturers' Institute, with headquarters at Cleveland.

"We aim to put a fire extinguisher, regardless of who makes it, in every home," said Mr. Bauer when interviewed in Montreal. "We want to reach the housewife through our publicity. Hundreds of women are sacrificed to the fire fiend needlessly every year."

A motion picture film manufactured by the Institute at considerable cost was shown privately to the delegates at the Convention in Montreal and it was heartily endorsed. The film which is called "Fortify for Fire Fighting" is a thrilling scenario, with real fire scenes taken in and around New York. One scene is the burning of a real farm and crops at Great Neck, L. I. The different methods of fire fighting and escape are shown in the film which was manufactured at the request of hundreds of civic bodies all over the country.

A copy of the film will be presented to the government for use in its campaign to reduce losses by fire among the farmers. The film will be manufactured in Germany and in France and arrangements have been made to show it in picture houses abroad.

The first showing in Canada will be at the Canadian National Exhibition which will be held about the middle of August in Toronto and which is usually attended by about 1,500,000 persons.

The next meeting of the Fire Equipment Manufacturers' Institute will be held in New York City next February.

New England Chiefs' Convention Notes

Chief French proved himself as able a musician as host during the convention.

Someone said that there were eleven youngsters for every adult at the fire apparatus tests, but even this seems to underestimate the number of boys present. Manchester must be made up of about four-fifths boys and the balance girls and adults.

The registration committee—all members of the "Box 52 Association" to Boston, and all volunteer workers—are becoming regular fixtures of the New England Association of Fire Chiefs. Their work is surely appreciated.

George Cobb's work as Traffic Manager of the New England Association has always been appreciated, but this year the Convention went on record in showing its appreciation by giving George a rising vote of thanks. It's not an easy task to look after transportation of half a thousand individuals nor the hotel accommodations of over six hundred people. Someone said "Let George do it" and he surely did. Congratulations, George.

Those who remained late at the tests saw a bit of comedy and tragedy when an exponent of dry powder extinguishers attempted to put out a fire in a tray of oil with one of his "Quickest Fire Killers known to science" (as labelled on his circulars). The "dry powder" worked fine in the open box where a teacup of gasoline was used, but it simply refused to show its "wonderful properties" on the tray fire, much to the chagrin of the salesman. This latter fire was finally put out with a foam extinguisher.

Each succeeding convention brings forth the ladies in larger numbers. This is a mighty fine omen for the continued success of the organization.

Demonstration of Foamite Double Tank Equipment on Combination Oil, Gasoline and Free Burning Fire.
Upper Fire at its height; Center: After fire was out; Lower: Just as foam stream was applied.

The Seagrave Standard Pumper meets every requirement of the modern firefighting organization, large or small. Both the centrifugal pump and the engine driving it are high-speed units synchronized perfectly into the development of a most efficient pumper. There is absolutely no vibration of the engine nor pulsation in the hose line.

The Seagrave Standard Pumper is of simplified construction and is rarely out of service for repairs or replacements.

The Seagrave Standard Pumper has been selected by fire departments in more than 700 cities throughout the world because it combines efficiency, reliability, long service and low upkeep.

The SEAGRAVE Corporation

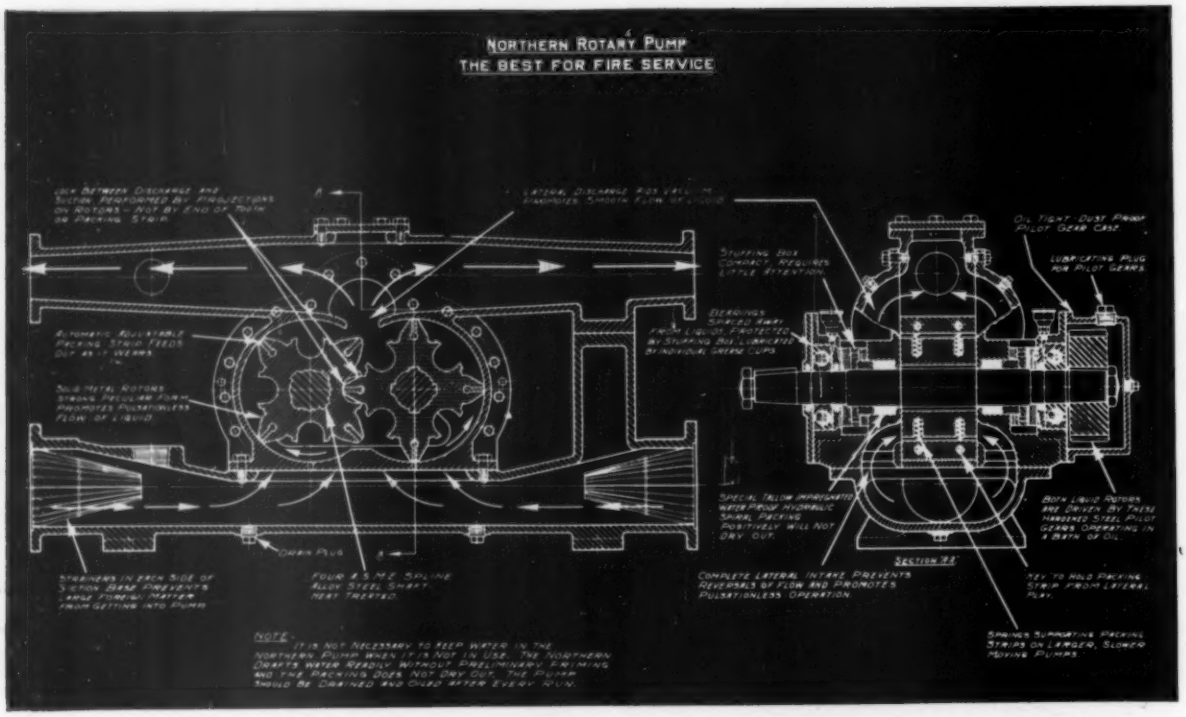
Columbus, Ohio

Branch offices at:

Boston, Mass.
New Haven, Conn.
Birmingham, Ala.
Philadelphia, Pa.

Chicago, Ill.
Dallas, Texas.
Los Angeles, California

Kansas City, Mo.
Pittsburgh, Pa.
Seattle, Washington
San Francisco, Cal.



ROTARY NORTHERN PUMPS

Lateral Ports—

A feature which no other fire pump can give—one of the reasons why the NORTHERN delivers more gallons per horsepower and gives the most reliable, longest service. No pulsation. No reversals of flow. A steady, even, powerful stream which *puts out fires.*

Write for the whole story of this remarkable pump — it's decidedly worth reading.

NORTHERN FIRE APPARATUS CO.

902 18th Avenue, N. E.
Minneapolis, Minn.

FOUR ALARM BUSINESS BLOCK FIRE SPREADS THROUGH SHAFTS & CHUTES

Smoky Blaze, Originating in Cellar of Pittsburgh Building, Jumps Second and Mushrooms on Third Floor—Fought from Inside

A VERY smoky fire starting from some unknown cause late Saturday afternoon, May 29, swept a section of the Wallace Block, a large three story brick store and apartment building located at Center, South Highland and South Sheridan Avenues in the heart of the East Liberty business district of Pittsburgh, Pa., causing a loss estimated at over $100,000. Several firemen were injured and a number of others were overcome by the smoke that rolled from the building.

The fire was first discovered by a woman in charge of the Quality Hat Shop, who smelled smoke for some little time,

Pittsburgh Firemen at Work on Big Business Block Fire. Most of the Fire-Fighting Was Done from the Inside.

and upon opening the door in the store-room leading to the basement to make an investigation found the cellar entirely in flames.

About the same time a pedestrian discovered smoke pouring from the basement window gratings of the Holmes Wall Paper Store, next door to the hat shop, who sent in the first alarm from station 6112, which is directly in front of the burning building.

Four alarms were sent in for the fire before it was brought under control, calling to the scene ten Engine Companies, one Hose Company and four Truck Companies, Deputy Chief of the Department, one Battalion Chief and two acting Battalion Chiefs. At the second alarm Deputy and Acting Chief Frank G. Jones, arrived and took charge of operations.

Upon the arrival of the first alarm fire companies, the fire, which from all indications had been burning for some time, was spreading through the basements beneath the different store rooms and dense clouds of smoke from the burning wall paper handicapped the firemen for quite a while before they located the seat of the fire.

The fire raged in the basement unchecked for some time, the fire spreading from one basement to another and finally extending to the third floor, practically skipping the second floor, the fire finding its way to the third floor through a light shaft, air circulating shaft, rubbish chutes and working its way up between the inner and outer walls of the building, where it spread out over a considerable portion of the third floor.

Chief Surgeon Daniel E. Sable answered the second alarm and established a first aid station near the burning building and attended the firemen who were injured during the progress of the fire.

Seventeen pieces of fire apparatus, all motor driven and tractor drawn of the following makes, were in service at the fire:

Six 750-gal. American-LaFrance triple combination pumpers; Two 700-gal. Metropolitan Steam fire engines, each drawn by an American-LaFrance tractor; One 700-gal. LaFrance steam fire engine drawn by an American-LaFrance tractor; Three American-LaFrance combination hose and chemical cars; One American-LaFrance combination hose and chemical car equipped with a Glazier monitor turret nozzle; One 75-ft. American-LaFrance tractor drawn aerial; One Seagrave 75-ft. aerial truck drawn by an American-LaFrance tractor; Two American-LaFrance city service trucks and one city service truck drawn by an American-LaFrance tractor.

In fighting the fire nineteen high pressure pumper and engine streams and three hydrant streams were used, with ⅞, 1 and 1⅛ inch nozzles; 8,700 feet of 2½ inch hose and 450 feet of 1 inch lead line hose, and 366 feet of ladders being in service.

A sufficient number of Ludlow fire hydrants with single and double 4½ inch openings, with pressures on hydrants ranging from 35 to 60 pounds, fed through large volume water mains from the Highland Park twin reservoirs gave the firemen all the water they required in controlling and extinguishing the fire.

A total of eighty-one uniformed firemen were on duty at the fire consisting of the following classifications.

A hoseman was injured at the fire, receiving cuts and bruises across the face and head by being struck by a high pressure stream that got away from the control of the firemen, and a senior lieutenant suffered injuries while attempting to make his way into the basement of the burning building. The latter was going down a narrow ladder when he lost his footing and fell to the bottom, receiving cuts and bruises in his fall.

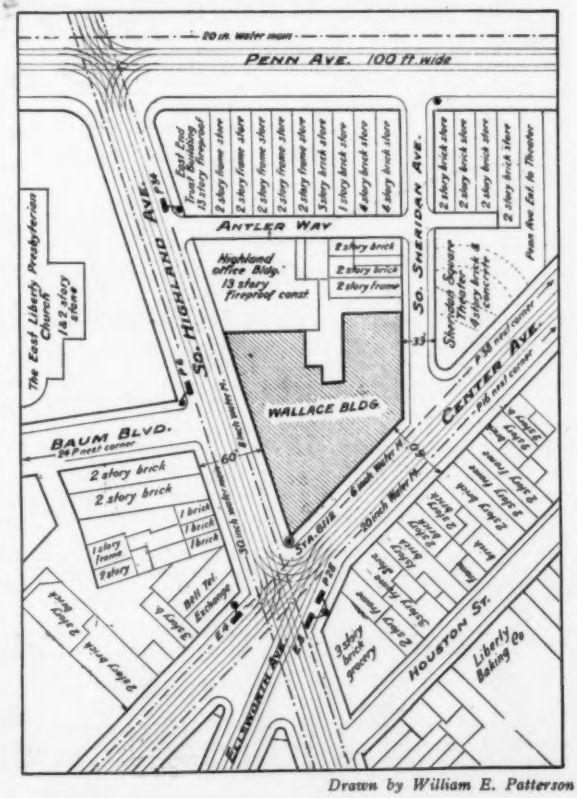
Before he was rescued by his fellow firemen he was overcome by smoke. Upon being brought to the surface he was given first aid and sent to the Homeopathic Hospital. The fireman was given first aid and sent home. A number of other firemen received minor cuts and bruises and were attended to on the fire ground by Doctor Sable.

The fire had to be fought almost entirely from the inside of the building and through the cellar windows and cellar openings on South Highland Avenue, Center Avenue and South Sheridan Avenue sides of the building. A number of improvised cellar pipes were used to good effect by the firemen in fighting the fire raging in the basement.

The burned building, which has been the scene of a number of other destructive fires in past years, was three story of brick, built over twenty years ago, fronting approximately 200 feet on South Highland Avenue, 150 feet on Center Avenue and 100 feet on Sheridan Avenue and contained eight storerooms facing Highland Avenue, six storerooms on Center Avenue and three storerooms on Sheridan Avenue and eighteen living apartments on the second and third floors in addition to quite a number of other single and connecting rooms which were occupied by doctors, music teachers, dress makers, etc. The interior of the building was entirely of wood construction, highly varnished, which made good fuel for the flames.

The duration of the fire was nine hours, being struck out at 1:31 on Sunday morning.

WM. E. PATTERSON.



Drawn by William E. Patterson

Map Showing District Around Large Business Block Fire in Pittsburgh, with Layout of Apparatus

WHAT'S BURNING

From reports covering the United States and Canada, the estimated losses by fire during the week ending June 25, 1926, aggregated $5,366,400 as compared with $5,017,100 for the corresponding week in 1925. The total is derived by adding to the amount in the list given, which includes only those of $25,000 loss and over a sum equal to thirty per cent of that amount, statistics showing that the smaller fires average about that proportion of the larger. Losses for the week ending July 2 following their right order.

The figures published in this list, compiled from telegraphic reports of fires occurring during the weeks, are based on estimates made at the time, which are necessarily hurried and are subject to latter investigation and consequent correction. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands.

LANCASTER, PA.—First Presbyterian Church damaged..... 30
TRAVERSE CITY, MICH.—Grand Traverse auto garage damaged 35
NORTONVILLE, KAN.—Five stores 45
STOCKTON, CAL.—Main building of California Cedar Products Co. 195
HOT SPRINGS, ARK.—Plant of Green-Thornton Lumber Co. damaged 25
SYRACUSE, N. Y.—Cotswold Comfortable Co. storehouse, filled with blankets 70
ARMOUR, S. D.—Queens Safe Building, Cruchet Dry Co., Buffel's Clothing store and Hewit Double Store bldg..... 120
HAWKINSVILLE, GA.—Sawmill plant and over 1,000,000 feet of lumber of Southern Timber & Lumber Co..... 73
BORGER, TEX.—Panhandle oil field town 95
BOSTON, MASS.—Plant of Massachusetts Potteries Co. damaged 40
COLUMBIA, MISS.—Plant of Polar Ice Co. and Mississippi Power Co. 55
BIRMINGHAM, ALA.—Plumbing shop, Laundry Dry Claning and Supply Co., Birmingham Woodenware Co..... 148
MILWAUKEE, WIS.—Building of Hartman Furniture & Carpet Co. 250
DULUTH, MINN.—The Fair department store..... 50
POTTSTOWN, PA.—Trinity Reformed Church..... 185
MANSFIELD, OHIO—Mansfield Water Pumping Station damaged 75
WORTHING, S. D.—Two grain elevators..... 30
YORK, PA.—Four-story building occupied by Welfare Loan Assn., notions concern, pajama manufacturers..... 275
JOLIETTE, QUE.—Car repair shops of Canadian National Railways damaged 73
UNIONTOWN, PA.—Two-story brick building of Cook Motor Co. 95
LINDSAY, ONT.—Gull River Lumber Co. and Lindsay Woodworkers, Ltd., damaged..... 95
EVANSVILLE, IND.—Gas plant of Southern Indiana Gas & Electric Co. damaged..... 98
WILLIMANTIC, CONN.—Pole yard of creosoting plant of Southern New England Co. damaged..... 58
BRISTOL, CONN.—Six business houses damaged on North Main streets 45
BERKELEY, CAL.—Pipe dipping plant of Steel Pipe and Tank Co. damaged 48
RICHMOND, CAL.—Building at Republic Steel Package Co. plant damaged 95
HARTMAN, ARK.—Ferndale Coal Co. and several adjoining places damaged 25
LAWTON, OKLA.—Ordnance warehouse No. 115 at Fort Sill.. 495
NEW ORLEANS, LA.—Plant of American Tar & Turpentine Company. 400
BATON ROUGE, LA.—Foster Hall, Louisiana State University Campus. 50
OMAHA, NEBR.—J. H. Haney Sons Company and adjoining property. 30
CLEVELAND, OHIO—Plant of Frankelite Company..... 150
CHIPPEWA FALLS, WISC.—Several buildings of Chippewa Lumber & Coal Co..... 40
AYER, MASS.—Buildings at Camp Devens destroyed..... 75
CHICAGO, ILL.—Fillmore and Central Park Garage with contents. 175
EL DORADO, ARK.—Kettle Creek Refinery suffers loss of.... 40
BROOKLYN, N. Y.—Lavenberg Paint Works, Greenpoint Section. 180
NEW YORK, N. Y.—Fifty-fourth Street Club destroyed..... 40
SYRACUSE, N. Y.—Modern Wet Wash Laundry..... 40
GREENWICH, CONN.—Residence of Benj. T. Fairchild damaged 25
BOSTON, MASS.—Building at 121 Kingston street occupied by Berger Dry Goods Company..... 25
TRACY, MO.—Co-operative Wheat Elevator Association elevator destroyed 50
SALEM, IND.—Main building of county asylum destroyed..... 30
CABOT, ARK.—Ten business buildings destroyed..... 40

From reports covering the United States and Canada, the estimated losses by fire in the week ended July 2, 1926, aggregated $6,207,500, as compared with $5,182,100 for the corresponding week in 1925.

BERKELEY SPRINGS, W. VA.—Pulverizing plant of Pennsylvania Glass Sand Company..... 80
FOND DU LAC, WISC.—Crescent Motor Company garage..... 40
MOBILE, ALA.—Several business establishments..... 30
RIVIERE DU LOUP, QUEBEC, CANADA.—Warehouses, stores and residences..... 850
SAN JOSE, CALIF.—United States Products Corporation plant 80
READING, PA.—Reading R. R. Shops and adjoining property.. 30
ROSELAND, LA.—Roseland Veneer & Packing Company plant destroyed 400
ESSEX, MO.—Business establishments destroyed..... 60
MARION, S. C.—Property of Anderson Lumber Corporation... 200
PHOENIXVILLE, PA.—Black Rock Bridge, owned jointly by Comm. of Chester and Montgomery Counties..... 80
ELKIN, IND.—Three stores and several residences destroyed 50
LANSING, MICH.—Homes of K. C. Randall and A. R. Sawyer destroyed 25
GRAFTON CENTER, N. Y.—Four buildings destroyed, others damaged 40
SARANAC LAKE, N. Y.—The Benjamin Muncil Camp on Lower St. Regis Lake destroyed..... 45
HARRISBURG, PA.—Stock of Harrisburg Grocery Company destroyed 60
JAMAICA, L. I., N. Y.—Six new frame dwellings destroyed.... 40
WINSLOW, ARK.—Mountain Lodge Clubhouse destroyed..... 30
SAN FRANCISCO, CALIF.—Hancock Building, warehouse of F. W. Woolworth Company..... 100
BERKELEY, CALIF.—Business establishments on University Avenue 165
HAIGLER, NEB.—Light plant and garage of W. F. Wood destroyed..... 30
EVANSTON, ILL.—House of Niles, a roadhouse..... 80
RAINIER, ORE.—Mill of L. B. Menefee Lumber Company destroyed..... 200
E. ST. LOUIS, ILL.—Junior High School damaged..... 40
MILTON, PA.—Three buildings owned by Moore Building and Supply Company 120
EL DORADO, ARK.—Oil tank of Magnolia Petroleum Company destroyed 200
TUSCON, ARIZ.—Business establishments including Chilton House 25
OLEAN, N. Y.—Smith Seely bakery damaged..... 30
SOUTH BOSTON, N. C.—Plant of South Boston Wagon Company 30
ABERDEEN, S. D.—North wing of Sherman Hotel damaged.... 210
COLUMBUS, OHIO—Sewers-Benbow Lumber Company and Scioto Lumber and Supply Company destroyed..... 310
BROWNSVILLE, PA.—Garage of Cook Motor Company..... 175
EAST LIVERPOOL, OHIO—Jesse Fisher bakery and garage destroyed 60
ZION CITY, ILL.—Zion Home damaged..... 40
LA GRANDE, ORE.—La Grande Iron Works owned by D. K. Fitzgerald 40
YORK, PA.—Warehouse of D. H. Lau & Company..... 200
BINGHAMTON, N. Y.—Storehouse and machine shop of State Highway Dept..... 25
BRIDGETON, N. J.—Plant of the Bridgeton Evening News destroyed 80
KEARNY, N. J.—Business establishments at 329-335 Devon St. 25
BOSTON, MASS.—Building occupied by Kenney Manufacturing Company 25
WATERTOWN, MASS.—The Warren Soap Company plant destroyed 40
UNADILLA, N. Y.—Ontio Hotel on Blue Mountain destroyed... 40
CINCINNATI, O.—Building at Second and Sycamore streets occupied by two business concerns..... 50
GARY, IND.—"Tribe of K" a department store..... 225
AGUILAR, COLO.—Business buildings on main street..... 70

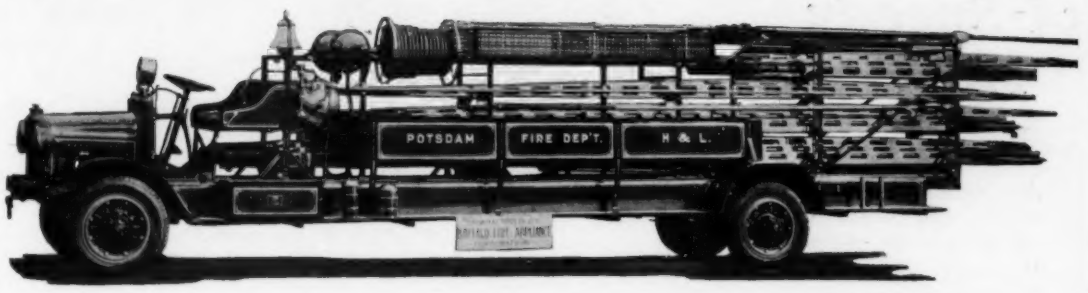
Navy Tests New Foam Fire Extinguisher Liquid

A U. S. Navy plane was set afire at the Naval Air Station in Anacostia, D. C., in order to test the fire-extinguishing properties of a new foam fluid perfected by the government for combating fires in planes. The fire was started by gasoline; the blaze was extinguished seven minutes after it was started.

Los Angeles Fire Commissioner Marries Actress—J. Walter Kays, fire commissioner of Los Angeles, Cal., was recently married to Elaine Hammerstein, popular movie actress. They are on a honeymoon to Alaska.

Brookline, Mass., Converts Ladder to Tower—A ladder truck of the Brookline, Mass., department has been converted into a water tower. Stronger springs have been installed in the base to take care of the increased pressure due to the water.

BUFFALO



Chief Rogers of Potsdam, N. Y.
Praises His Buffalo-Built Apparatus

Here is the letter he wrote us, word for word:

"In regard to rebuilding our hose and chemical Brockway, which was done by your company and delivered last Thanksgiving Day, the reason we have not made a statement in regard to same, is that we wished to try machine under winter conditions.

"We put the ladder truck into service as soon as delivered and it has answered every alarm this winter. We take pleasure in reporting to you as follows: You made a few slight changes, but every one was in our favor and for the improvement of the job. Your method of lengthening and trussing chassis is excellent. We are able to make any corner in our village, disregarding width of streets. The machine handles a lot better than before the change. The ladder arrangement is extra good and very accessible. The extra hose bodies on the sides of the truck are an innovation in truck equipment. We cannot speak too highly for this arrangement. The general appearance of completed truck is a whole lot better than other trucks which we have seen that cost much more. In fact, the whole job exceeds our fondest expectations. We stand ready to recommend your work to anyone interested in fire equipment. You may use this letter as you may see fit."

Potsdam is just one of the numerous cities, towns and suburban and rural communities that are satisfied users of Buffalo-Built-to-Your-Order fire apparatus. Whenever you consider the purchase of new equipment of any type, it will pay you to get complete information on Buffalo apparatus and the Buffalo way of doing business before you make a decision. Doing so, places you under no obligation whatever.

May We Send You Complete Information?

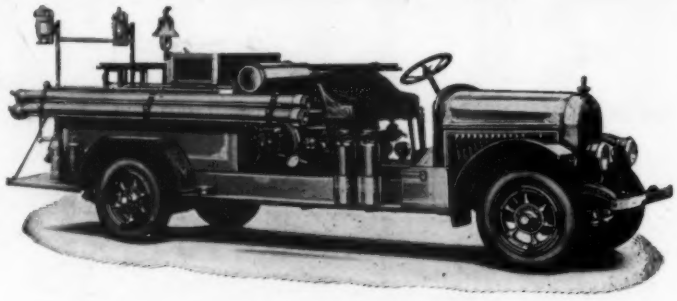
BUFFALO FIRE APPLIANCE CORP.

Main Office and Factory, Buffalo, N. Y.

BUFFALO

COSMOPOLITAN

A Speedy Fire Fighter



Any smaller community can well be proud of the new Cosmopolitan as they see it speeding on its way to a fire.

It is really big city fire protection at a price that a smaller community can well afford to pay.

The low Brockway chassis insures roadability.

Its six cylinder motor permits quicker acceleration, brings more power and more speed. The American-LaFrance fire equipment with which it is mounted is built with the knowledge that can only belong to the world's largest and oldest manufacturers of fire apparatus.

We have illustrated literature describing the new Cosmopolitan in detail. Why not let us send it to you?

AMERICAN-LAFRANCE FIRE ENGINE COMPANY, INC.

ELMIRA, N. Y.
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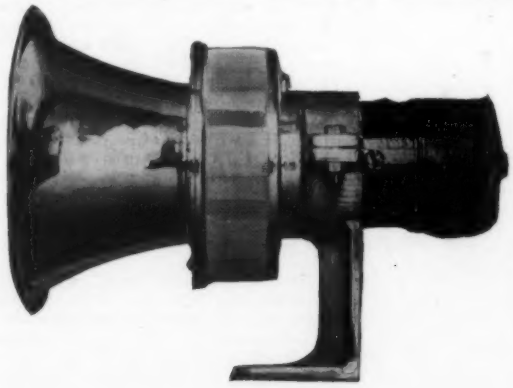
C.A.M. Sirens

are better sirens



They are designed solely for emergency signalling and are unsurpassed for ruggedness of construction, simplicity and accessibility of parts.

They are built to give service and to endure.

Bronze is used where bronze serves best; likewise with other metals.

C. A. M. Sirens may well be classed as aristocrats in the siren field. They are "quality" sirens.

If you are in the market for the best that can be built in the way of electric fire apparatus sirens, get in touch with us. Write for bulletins.

C. A. M. Manufacturing Company

802 Humboldt Bank Building San Francisco, California

INDUSTRIAL PLANT PROTECTION

Protecting the Industrial Plant from Fire

By HORATIO S. SHANNON,
District Fire Warden, American Steel & Wire Co., Cleveland, Ohio*

It is essential that every industrial plant have a regular organized fire department, whether it be a paid or volunteer department, and if a plant is considered too small for a regular organization, the men employed there should be instructed in use of whatever fire equipment that is available. While they may not be able to control the fire, they may be able to hold it until outside help arrives.

In organizing a plant fire brigade care should be taken in selecting the men best fitted for the different positions. I see no need of taking up the organization in detail, as this runs along the general lines from the chief down to the firemen.

After the organization there should be provided some system for the transmitting of an alarm, to notify the department that their services are needed at a certain part of the plant, and then to provide them with the necessary equipment for fighting a fire. Water and plenty of it is something that should be provided, with a pressure great enough to force it to where you may need it. I responded to an alarm of fire in a large industrial plant in Cleveland years ago, with the man who is now chief of that department. He was, at that time, assistant chief. The smoke was coming out of every opening of this plant, and as he stepped from the buggy, (this was before the days of the automobile) he made this remark, "Oh, if I only had a fire boat at each end of this." He realized that water and plenty of it was needed. If the necessary water supply is not available, its equivalent in chemical apparatus should be provided.

Next in importance is the hose to transmit the water from the source of supply to where you may need it.

There are on the market today several kinds and sizes of extinguishers, such as the old reliable soda-acid type which has stood the test for years and the foam type for oil and grease fires. Right here I wish to relate an experience I had while visiting an industrial plant. An alarm of fire was turned in while I was there and I responded. The fire was in a small tank of tar which was being treated and caught on fire. On entering the building I saw a man (not a member of the plant department but he was trying to do his bit) using a foam type extinguisher on the fire. He was a little timid and was working from too great a distance to do effective work. I said to him, "bring that extinguisher over here where you can hit the fire better." His answer was, holding the extinguisher toward me, "here, G—— D——, take it yourself if you know how to use it." This was a 2-½-gal. size. He had wasted so much of it that it would not put out the fire. The plant fire department arrived with a 50-gal. size and one dash did the work.

The carbon-tetrachloride extinguisher is used principally for electric fires, as the liquid used is a non-conductor of electricity. It can be used on electrical apparatus with comparative safety. Both the foam type and the carbon tetrachloride extinguishers can be used on other fires.

Then there is the non-freezing type of extinguisher that can be kept in places where they would be exposed to low temperature.

Each plant should study their conditions and go into the market and purchase the extinguishers adapted to their conditions.

Then we have the automatic sprinklers. A system of this kind when properly installed and cared for is one of the greatest factors we have for extinguishing fires, as it catches them at the beginning.

In addition to the shop alarm system there is the auxiliary alarm system with a master box or boxes, as may be required, to be used for calling the city department, in case their services are needed. The master boxes designate the particular part of the plant where they are needed.

In purchasing hydrants and hose, it is best to purchase only those having threads of the same standard as used by the municipality in which the plant is located. The best standard equipment is none too good.

After you have your organization and equipment, you have only started. The care and maintenance then begins. This should be put up to some one, preferably the chief, whose duty it must be to see that all the equipment is in order for immediate use at all times.

Fires can be put in two classes—preventable and non-preventable. Statistics shows that 90% of all fires are preventable. Our first duty is to try and eliminate the causes for these preventable fires. This can be done by a rigid inspection system by you fire warden and the officers and members of the plant fire department.

Cleanliness in an industrial plant is very essential. All accumulations of combustible materials, such as oily waste, rags, shavings, sawdust, etc., should be removed daily. If this is allowed to remain in the building, the greater the danger of spontaneous ignition, and the more inflammable material lying around, the quicker your spread of fire. There should be a place for everything of an inflammable nature, and everything kept in its place.

How often, when going through a plant, you will notice the storekeeper opening up a bale of waste and giving it out to the workmen. If there is any left he will probably push it in a corner and forget it, and the man who receives his portion will take it to his department and if a metal box has not been provided for storing it, he will put it in his locker or perhaps in a drawer of his work bench, and at the end of the turn he will remove his greasy overalls and jacket, roll them up and put them in the locker or drawer, alongside the waste, and you can plainly see what might happen. All waste and rags, clean and dirty, should be kept in metal receptacles.

Oiling of machinery and storage of oils is another hazard. A careless oiler will put altogether too much oil on a machine. This will not help the machine, but will increase the fire hazard.

All oils should be kept in a central oil house of fire proof construction and with some automatic means of extinguishing a fire if one should start. No oils should be kept in any of the departments, except what is necessary for immediate use, and then only in proper cans.

Another hazard is the careless way in which the average workman disposes of his lunch papers. He will eat his lunch and if there does not happen to be a rubbish can in front of him, with the cover off, he looks around to see where he can throw it and finds a place in back of the rubbish can or in a pile of material, anywhere except in the right place, which is in the rubbish can. If this practice is continued, it is not long before you have an accumulation of combustible material in an unlooked for place, waiting to do its stunt.

And still another hazard is the use of the burning or cutting torches. It is getting so that if a nut or bolt is to be removed and is a trifle hard to get out, the common saying is, "go get the burner." It goes without saying that this is a wonderful invention but great care should be exercised when they are being used inside of buildings and around oily and greasy machinery and any place where inflammable material is stored, and then only after precaution has been taken to safeguard against fire. In addition to this some means should be used to confine the sparks, and a reliable man provided with the necessary extinguishers to put out any fire which might be caused by this operation.

*From a paper read before the ninth annual convention of the Ohio Fire Chiefs Association.

Plan to Identify Piping

The Bureau of Standards' committee on safety engineering held a conference in New York city to consider the proposed plan for identifying the contents of piping systems used in manufacturing plants, oil refineries and other places where there is an abundance of piping.

The committee favors the use of stenciled words on the drains rather than identifying the pipe contents by colors. It is stated that some of the manufacturing concerns have so many different chemicals in their pipes that are peculiar to the industry, that it would be impossible to establish a universal color standard. However, five classes of material have been recognized.

It was brought out at the meeting that it was not intended to paint the entire run of pipe but to paint bands on the pipe in places where the information would be needed.

Identifying the pipes in this matter would be of great assistance to firemen operating at a fire within a plant.

Turtle Creek, Pa., Purchases Apparatus—An Ahrens-Fox pumper was purchased by the council of Turtle Creek, Pa.; delivery is expected in September.

S. C. STATE FIREMEN'S PRESIDENT STRESSES NEED OF INSURANCE TAX

Association Holds Its Biggest Convention—Treasury in Flourishing Condition—Chief Behrens Honored for Services as President

THE veteran president of the South Carolina State Firemen's Association, Chief Louis Behrens, of the Charleston Fire Department, in his address at the twenty-first annual convention of that body in Charleston, on June 24 and 25, spoke earnestly in favor of the general adoption by states of the tax on insurance for the benefit of firemen's pensions.

The convention was the best the association has ever held, the attendance exceeding that of any other gathering of the body. The association was called to order by President Behrens at noon of June 24, at the Hotel St. John, Charleston, and was opened by an invocation by Rev. R. T. Peyton, chaplain of the association, followed by an address of welcome by Mayor Thomas P. Stony. Following an address by Chief William B. Cody, of Atlanta, Ga., eulogistic of the services of President Behrens to the association, Ex-Chief Thomas W. Haney, of Jacksonville, Fla., presented Chief Behrens with a handsome loving cup. The delegations from Georgia and Florida were roundly cheered. Another presentation, made by Chief Emeritus T. O. S. Dibble, was from the members of the association, and consisted of a silver service. The Charleston Fire Department also gave Chief Behrens a large basket of flowers.

The election of officers resulted in the unanimous choice, for the twenty-second time, of Chief Behrens as president; Chief A. McC. Marsh, of Columbia, was reelected first vice president; Chief P. E. Wilburn, of Union, second vice president; R. S. Hood, of Sumter, secretary; Chief T. O. Flowers, of Rock Hill, was reelected treasurer; and R. T. Peyton, of Rock Hill, was reelected chaplain. Darlington was chosen as the meeting place for the 1927 convention.

The president in his annual address, after referring to the flourishing condition of the association, and the marked increase in membership, spoke of the advantages derived from the 1% tax on fire insurance premiums, and urged the adoption of this legislation by all states. From the 66 cities and towns having fire departments and having the the power to levy 1% tax on all such premiums collected within their limits, a total of $32,-362.43 had been received, an increase of $2,259.93 over last year's receipts. Chief Behrens said:

> But, substantial as this financial aid secured through your consistent and intelligent efforts for self-betterment, consisting of thousands of dollars derived from the collection of this tax of 1 per cent on fire insurance premiums, it will by no means compensate the gallant members of our State fire departments for their unselfish service given their fellowmen. They are ready day and night to risk their lives for the rescue of persons imperiled by the fire menace, and the saving of their property and when we call to mind the fact that three-fourths of our firemen are volunteers who serve without reward, other than that which a sense of duty and of public spirit bring all the money is their due in the minds of their fellow citizens admiration for and gratitude to the fire fighters.
>
> We must not be content and satisfied with having done well, but we should endeavor to be potent factors for greater good among the firemen, and a powerful agency in all matters pertaining to the protection of the lives, limbs and property of our citizens and reduction in the fire losses of South Carolina.

The parade, which was one of the finest the association had ever held, began at 11 a. m. The delegates were afterward entertained at Folly Island with a fish fry and music. There was a dance in the evening.

The Pride of the Dingville Fire Department, Built by a Manchester Fireman, Gave the Visitors a Hearty Laugh.

Charges Made Against Billings Chief

The firemen of Billings, Mont., have filed grievances and charges against the conduct of Chief V. H. Steele. The city council are planning to make a thorough investigation into the charges, and to get at the seat of the trouble.

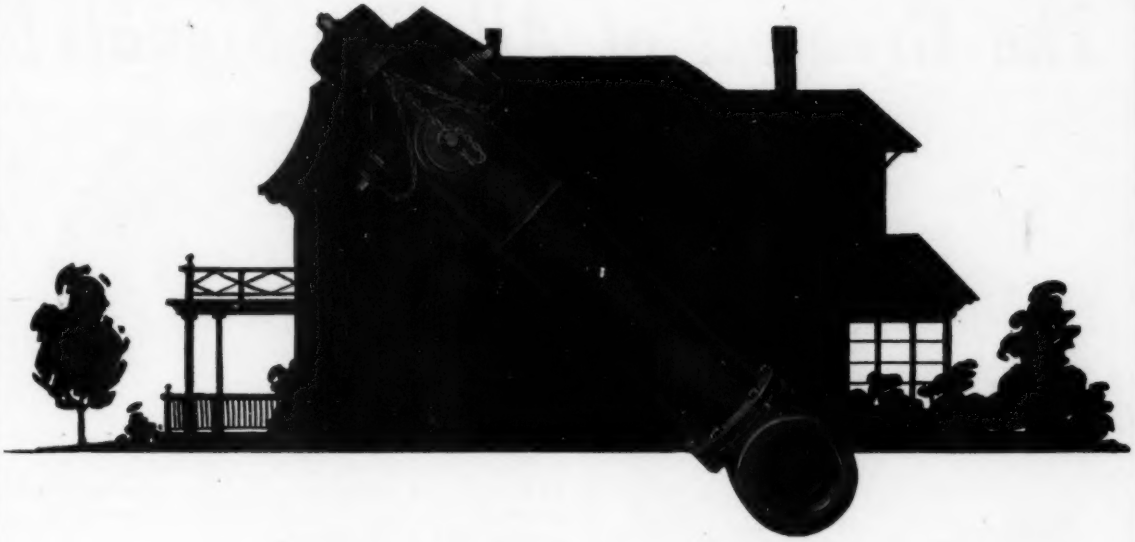
The men allege that on one occasion, the whole fire department responded to a rural fire thereby stripping the city of its fire defenses. It is stated in the complaint that one of the firemen who suffered a broken leg in a street brawl, was granted full pay for more than a month. A nephew of the chief and a non-resident of the city was appointed to the force; he was granted leave to visit a baseball game and no man was assigned to relieve him. It is alleged that the chief made things so unbearable for the men, that two of the firemen, one of whom had served for more than sixteen years, resigned from the department. Other minor complaints were also mentioned in the complaint.

Chief Boyd Commends Firemen—Following one of the large fires in Knoxville, Tenn., Chief Sam Boyd called his men together and commended them for the manner in which they fought and cooperated in the fighting of the large fire. Many of the men who were on the off shift and who were not required to attend the fire, came voluntarily to assist.

Minnesota Firemen Want Modified Volstead Law—At one of the sessions of the Minnesota State Firemen's Association held in New Ulm, Minn., a resolution was adopted urging the passage of a modified form of the Volstead law without the return of the saloon. The firemen also discussed the formation of an arson club for acting against the spread of this crime.

Chief Hannigan, of Norwood, Made Himself Useful at the Convention.

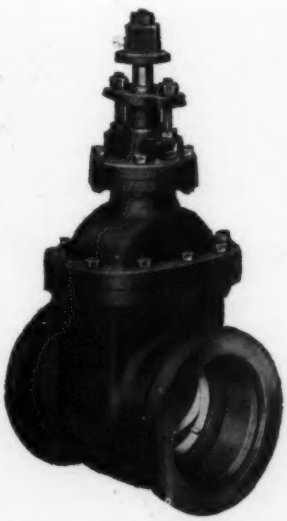
Upper: Operating "Foamite" extinguisher in one of the demonstrations; Lower: All set to drive the Managing Editor of this Journal to Boston after the convention.



Dependable Fire Hydrants Reduce the Fire Risk

A city cannot offer its residents and industries a more gilt edged insurance policy than a finely drilled fire department, the best apparatus and Darling Fire Hydrants. Without good hydrants men and equipment are helpless.

Fire chiefs, municipal authorities and engineers join in extravagant praise of the Darling Fire Hydrant. They testify that which we already know to be true—"that Darling combines all the good qualities a fire chief is seeking in a fire hydrant." In other words, the Darling Fire Hydrant is sturdy, delivers maximum water to the nozzles with no perceptible loss in pressure, closes with the pressure; preventing escape of water in case of breakage through collision, and may be inspected and cleaned through the top.



Darling Gate Valves are unsurpassed for underground service

Catalog will be sent upon request

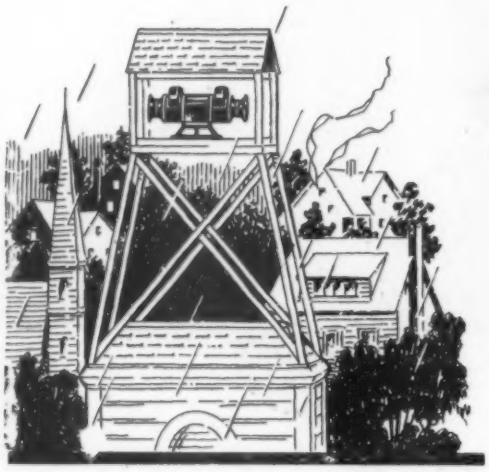
DARLING VALVE & MANUFACTURING CO.

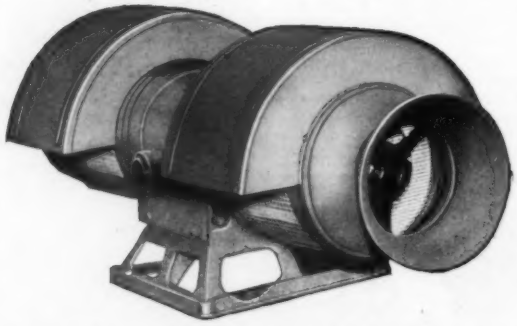
WILLIAMSPORT, PA.

New York Chicago Oklahoma City Houston

DARLING FIRE HYDRANTS

The Greatest of All Fire Signals!





Do not depend upon bells and whistles, but install a Sterling Model M that will shriek out the fire signal for miles around. Its warning can never be mistaken and it always commands attention and quick action.

Write for particulars and terms of purchase.

Sterling Siren Fire Alarm Company Inc.

61 Allen Street - - - Rochester, N. Y.

BUCKEYE WHISTLES

Do they hear *You* Coming?

Buckeye Whistles will clear the way for your apparatus and your officers' cars, many blocks ahead. You can rely upon them, Chief, because they are extremely effective and always dependable.

They are made to last a lifetime and are being sold for Fire Department Service exclusively.

A 60-day trial will convince you why almost 400 Fire Chiefs in the United States alone, have recognized in

BUCKEYE WHISTLES

A Warning Signal that Warns

BUCKEYE IRON & BRASS WORKS - DAYTON, OHIO

The Los Angeles Fire Dept. is 100% B & M equipped.

Hundreds of Cities over the country using our sirens.

B and M

We gladly send B & M Sirens to cities on approval without expense.

SIREN

"It pierces the air"

You Will Eventually Buy B & M's

Fire officials find the powerful B & M fire apparatus Siren to be ideal to meet modern street traffic conditions. Electrically-driven Sirens cannot be operated successfully by storage batteries in hard and continuous service. Hand-rotated Sirens are both exhausting and dangerous to the operator. Therefore, the mechanically-driven B & M Siren with its piercing screech that can be heard for miles is the ideal fire apparatus Siren.

Send for Complete Information

B & M MANUFACTURING CO.

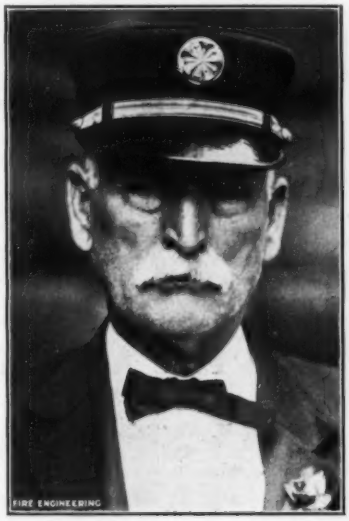
Lester H. Miles, Proprietor

931 So. Main St. Los Angeles, Calif.

COLUMBUS HAS CHIEF-EMERITUS; E. E. NICE APPOINTED CHIEF

Unusual Honor Conferred on Veteran Retiring Head of the Ohio City's Fire Department—Career of New Chief

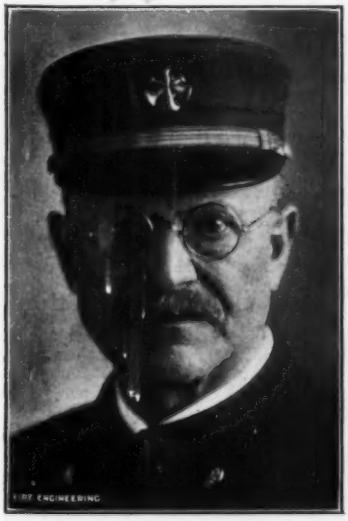
CHIEF JENKINS DANIELS, grand old man of the Columbus, Ohio fire department has been retired from active service and appointed chief emeritus. The appointment to this unusual office came as a fitting climax to his having rounded out forty-four years in the service of the fire department.



Chief-Emeritus Jenkins Daniels

On many occcasions prior to this appointment, John P. McCune, safety director, suggested that he retire from the actual fighting of fires and permit the work on the fire-fighting line to be carried on by the younger fire officers. Chief Daniels often promised to give this plan consideration but whenever the apparatus rolled out to answer a call from the scene of a large fire, he was sure to be found in the thick of it, directing his men. He was urged to take it easy and to permit others to do the fighting but he said that he would rather see things himself than get a report from one of the younger officers.

He was called to "the carpet" and received his appointment as chief emeritus. Chief Daniels in somewhat of an unsteady voice said to his men, "The reason that I had you come in to headquarters is that I am about to leave you. It is rather the parting of the ways. I want to thank you all for your cooperation during the years gone by, for if it had not been for this faithful service, I could not have been a success. I want to request that you serve my successor in the same manner that you have me."



Chief Allen E. Nice

Safety Director McCune said, "Now when you go to a second alarm fire, you will have the same privileges as I have—to watch the fire from the outside."

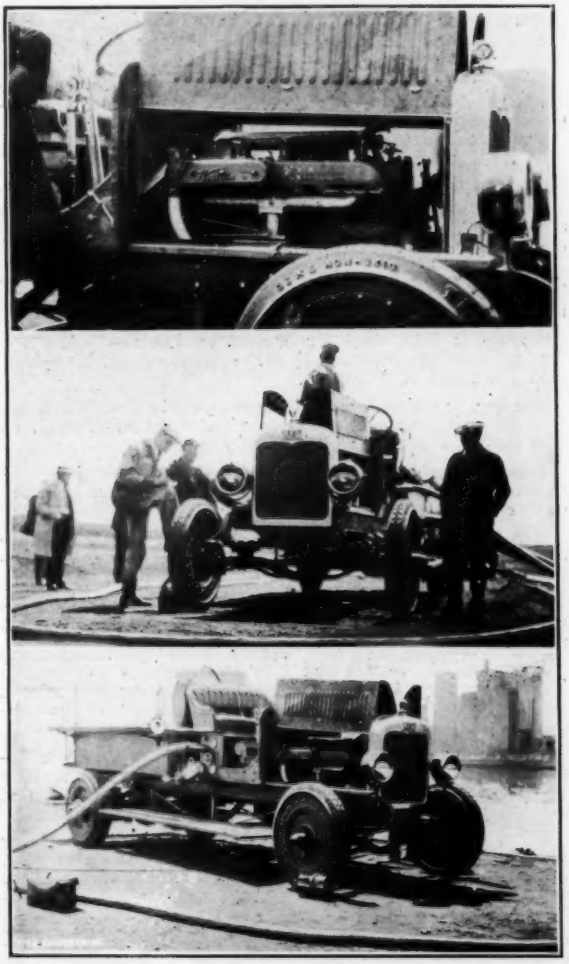
A. E. Nice, who was appointed chief to fill the vacancy caused by the retirement of Chief Daniels from active service, presented Chief Daniels with a gold watch and chain. On the watch was inscribed "Presented to Chief Jenkins Daniels, March 16, 1926, by members of the Columbus department.

Chief Nice became an extra fireman in June, 1888, and he was appointed a regular fireman August 1, 1888. At that time he was only twenty-three years of age.

On August 1, 1893, he was appointed lieutenant and four years later, on February 2, 1897, he was promoted to the office of captain. Chief Nice was appointed battalion chief on March 16, 1908, and named as assistant chief on December 10, 1916. His appointment now as chief marks his climb to the highest rung in the ladder.

Milwaukee Tests Own Make of Apparatus

A pumper constructed by the firemen of Milwaukee, Wis., under the direction of William Striebel, master mechanic of the department, has successfully passed the 12-hour Underwriters' test conducted by engineers of the Wisconsin Inspection Bureau. Following the test, orders have been placed for parts to construct five more pumpers of similar design.



Upper—View of the Waukesha Motor. Center—Test Being Conducted by the Wisconsin Inspection Bureau. Lower—Apparatus Constructed at the Milwaukee Shops.

The Waterous rotary pump, built by the Waterous Fire Engine Works, St. Paul, Minn., was chosen as the pumping unit for apparatus to be built by Milwaukee.

The engine is a Waukesha, "Ricardo Head" 6-cylinder motor and the pump is a Waterous rotary with a nominal displacement of 1.24 gallons per revolution. The gear ratios of engine to pump are 2:1, and 3.52:1.

The duration of the first test was six hours. The layout consisted of 2 100-ft. lines of 2½" cotton rubber lined hose siamesed into a deluge set with a 1¾" nozzle. The pump delivered an average of 764 gallons per minute at 126 pounds net pump pressure. Engine r.p.m., 1323; pump, 661.

Second test—three hours. One line 250 feet long of 2½-inch C. R. L. hose with 1⅛-inch nozzle-gate in line throttled. Pump delivered 379 gallons at 207 pounds net pump pressure; engine, r.p.m., 1318; pump, r.p.m., 375.

Layout for the third test, the same as the one previous. Discharge, 266 gallons per minute at 254 net pump pressure. Engine r.p.m., 1065; pump, 303.

FIRE DEPARTMENT ACTIVITIES

Berkeley, Mich., Has New Pumper—A new pumper has been delivered to Berkeley, Cal.

New Milford, N. J., Purchases Pumper—A Hahn pumper was purchased for New Milford, N. J.

Burlington, Ia., Has Lowest Loss in State—According to fire loss reports just made public, the fire loss in Burlington, Ia., is the lowest per capita of any town in the state.

Ballston Spa, N. Y., Purchases New Equipment—The Eagle company of Ballston Spa, N. Y., purchased a Foamite-Childs pumper mounted on a Brockway truck.

Charleston, S. C., Receives New Pumper—An Ahrens-Fox pumper was recently delivered to Charleston, S. C. This is the first of the two machines that the city purchased for $27,000.

New Chief for Secaucus, N. J.— After fourteen years as a volunteer fire-fighter in Secaucus, N. J., Frank Monnicke was elected chief of the department.

Odessa, N. Y., Purchases Fire Apparatus—Odessa, N. Y., has purchased a Foamite-Childs fire apparatus and delivery is expected at an early date.

Apparatus Purchased for Marquette, Mich.—A Seagrave fire apparatus was purchased by the commissioners of Marquette, Mich., at a cost of $12,000.

Hartley, Ia., Purchases Apparatus—A Reo chassis equipped with Boyer fire appliances, has been purchased by Hartley, Ia. The apparatus is designed for country use.

East Moline, Ill., Firemen Granted Increase—The firemen of East Moline, Ill., have been granted an increase in salary of five dollars a month.

Berryville, Va., Orders Chemical Apparatus—A Seagrave chemical apparatus has been purchased for Berryville, Va. Delivery of the apparatus is expected within sixty days.

Pumper Delivered to Hearne, Tex.—A Reo car equipped with a Northern pump was delivered to Hearne, Texas. The apparatus has a sixty-gallon chemical tank.

Freeport, Ill., May Limit Fire Protection—Consideration is being given to a plan suggested by the mayor of Freeport, Ill., that the city limit its fire protection service to the residents within the city.

Kansas Fire Marshal Appointed—W. A. Elstun was appointed state fire marshal of Kansas by Governor Paulen. He was appointed deputy fire marshal in 1915 and has held that position, mainly, ever since.

Flint, Mich., to Construct New Station—Plans are being formulated for the construction of a new fire station in Flint, Mich. About $75,000 has been set aside for the financing of the work.

Ocala, Fla., Resents New Chief—Because the city council of Ocala, Fla., appointed as fire chief, a man that was not acceptable to the firemen, the entire department resigned. Two men, however, remained on duty in the event of a fire.

Berlin, Germany, Work According to Rules—Interboro feeling is particularly strong in Greater Berlin, Germany, because of the refusal of a fire company in one borough to fight a fire that was just across the street from the boroughs dividing line.

Dallas Scout Camp Presented with Apparatus—Through the activities of Chief Tom Myers of Dallas, Tex., a hand drawn chemical apparatus was assembled at the department's shop, and presented to a local boy scout's camp.

New Car Purchased for Chief Waiderlich—A new Buick roadster was purchased for the use of Chief Joseph Waiderlich of Topeka, Kans., to replace a car that was badly damaged in a recent collision.

Watervliet, N. Y., Troubled by False Alarms—The city council of Watervliet, N. Y., have offered a reward for the arrest of the party who is responsible for an epidemic of false alarms in the city.

Committee Appointed for Chicago Pension Fund—A committee to handle the finances being collected for the firemen's pension fund has been appointed by Mayor Dever of Chicago. The pension fund last year had a deficit of $75,000.

Scranton, Pa., to Have New Apparatus—Scranton, Pa., will soon advertise for bids for the purchase of a 1,000-gallon pumper. An ordinance has been passed appropriating about $16,000 for the purchase of the apparatus.

Fort Wayne, Ind., Has New Fire Station—A new fire station has been constructed in Fort Wayne, Ind., and it is expected that the station will be placed in service in the fall. The building will house a ladder and an engine company. There is sufficient dormitory space for twelve beds.

New Riverside, Cal., Chief Assumes Duties—John C Hutchinson, formerly chief of Brawley, Cal., has assumed his duties as chief of the Riverside, Cal., fire department. He has served with the fire departments at San Diego and Fresno, and was chief at Buhl, Idaho for five years.

Newberry, Mich., Purchases Cooperative Apparatus—Newberry, Mich., in cooperation with the McMillian Township, purchased a fire apparatus. The township will pay the first three payments of sixty per cent of the purchase price, and Newberry will pay the last two payments or forty per cent.

Fire Alarm Notes

Waverly, N. Y., Replaces Old Fire Alarm System—The old fire alarm system of Waverly, N. Y., is to be replaced by a Gamewell fire alarm system.

Lynbrook, N. Y., System Ready to Test—The new alarm system which has been installed in Lynbrook, N. Y., is now ready to test, and it consists of a whistle and suitable connections.

Safety Siren Installed in Nampa, Ida.—A siren has been installed in Nampa, Idaho to warn pedestrians and automobilists of the approach of fire apparatus. All cars are supposed to draw up to the curb, or they will be subject to a fine.

New System Installed in Montclair, N. J.—A system for transmitting fire alarms received by telephone has been installed in Montclair, N. J. Instead of each company having a private phone, the telephone operator by means of a fire department switchboard at the exchange, can call the company in the zone in question.

Fire Alarm Chiefs Elect Officers—E. A. Sullivan, superintendent of the fire alarm system in Hartford, Conn., was elected president of the Eastern Association of Superintendents of Fire and Police Telegraph, at a meeting held at the Fenway Fire Alarm Headquarters in Boston. Other officers are Alfred C. Ames, Providence, 1st vice-president; Morey F. Orrel, Worcester, 2nd vice-president; George H. Bowen of Boston, secretary and treasurer.

Chicago Special Trip to Chiefs' Convention

A special all-expense tour from Chicago to the 54th annual convention of the International Association of Fire Engineers at New Orleans, on October 19 to 22, will be personally conducted by Peter C. Holm, Chicago Fire Department, 3100 South Sacramento avenue. The trip will cost $225, and will include, besides the New Orleans convention, visits to Mobile, Key West, Jacksonville. Chattanooga, Nashville, the Gulf Coast, Havana and Miami. The itinerary is as follows:

	October
Lv. Chicago (Dearborne Sta.) C&El Ry. Special	9:00 a. m. Sunday 17
Ar. Mobile, L&N R. R. Special	12:00 p. m. Monday, 18
Lv. Mobile, L&N R. R. Special	3:00 p. m. Monday, 18
Ar. Biloxi, L&N R. R. Special	5:00 p. m. Monday, 18
Lv. Biloxi, L&N R. R. Special	5:30 p. m. Monday, 18
Ar. New Orleans, L&N R. R. Special	8:30 p. m. Monday, 18
Lv. New Orleans, U. F. Co. Boat	11:00 a. m. Saturday, 23
Ar. Havana, U. F. Co. Boat	10:00 a. m. Monday, 25
Lv Havana, P. & O. S. S. Co. Boat	10:00 a. m. Wednesday, 27
Ar. Key West, P. & O. SS Co. Boat	5:00 p. m. Wednesday, 27
Lv. Key West (*), F. E. C. No. 76	7:30 p. m. Wednesday, 27
Ar. Miami, F. E. C. No. 76	12:45 a. m. Thursday, 28
Lv. Miami, F. E. C. No. 76	1.05 a. m. Friday, 29
Ar. Jacksonville, F. E. C. No. 76	12:01 p. m. Friday, 29
Lv. Jacksonville, A. C. L. Special	2:00 p. m. Friday, 29
Ar. Chattanooga, NC&StL Ry. Special	4:00 a. m. Saturday, 30
Lv. Chattanooga, NC&StL Ry. Special	2:00 p. m. Saturday, 30
Ar. Chicago (Dear. Sta.) C&El Ry. Special	8:00 Sunday, 31

(*) From Key West to Chicago same Pullman cars will be occupied through—including all stop-overs.

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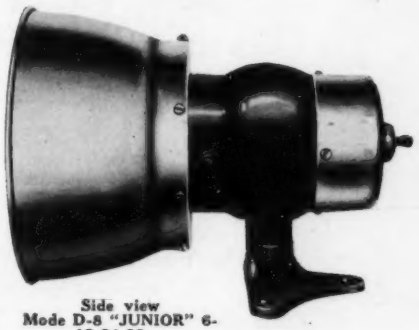
AUTOMATIC CODING SIRENS

EVOLUTION IN SIRENS



Side view
Mode D-8 "JUNIOR" 6-12-24-32 v.

SIRACODE incorporates new principles that make all old types obsolete by the development of many new features, two of which are listed below:

(1) PARABOLIC ROTOR and DEFLECTOR—projecting and intensifying the sound.

(2) QUICK ACTING AUTOMATIC SHUTTER—Sounding sharp cut signals off any full Automatic Fire Alarm System or Ward System through SIRACODE RELAY Apparatus lately perfected.

Apparatus types
JUNIOR $90.00
MIDGET $45.00
F. O. B. San Francisco

"COMMUNITY PROTECTORS"
Sizes 12"—16½"—20". With SIRACODE RELAY. Prices on Application

SIRACODE SIGNAL CORPORATION

Formerly Heath Engineering Laboratories, 354 Pine St., San Francisco, Calif.

A Nation-Wide Service for Better Protection Against Fire Loss and Water Damage

PROTECTION A.D.T. SERVICES

The remarkably efficient A. D. T. System of Central Station Night Watch and Fire Alarm Service has played a large part in helping to cut down the fire loss of the country; and the A. D. T. System of Sprinkler Supervisory Service has been instrumental in saving millions of dollars in water damage.

An Invaluable Service

It is generally known that water damage in sprinklered premises is considerably greater than fire damage, and it is a fact that in a great majority of sprinklered equipments no one on the premises knows how to shut off the water. Hence, the great importance and value of our Supervisory Service in not only recording water flows, but immediately sending representatives who know how to stop them.

Over $20,000,000,000

worth of property throughout the country is protected by A. D. T. services, and fire officials in cities everywhere are finding A. D. T. cooperation an invaluable aid in their work.

Send for Complete Information!

Controlled Companies

American District Telegraph Co.
Executive Offices, 183 Varick St.
New York City

The Burrell All Service GAS MASK

The Standard for the Fire Fighters of America

The Burrell All Service Gas Mask is the only mask approved by the United States Government for complete protection against Carbon Monoxide, Ammonia and every known poisonous gas. Write for Bulletin F-3.

Mine Safety Appliances Co.
Braddock Ave & Thomas Blvd. Pittsburgh, Pa.

New Victor Gas and Fume Mask

Better Rubber. Longer Life. Better Fitted. Moulded to Fit the Face. Better Vision. Renewable Lenses. Better Air. Better Work. Low Prices. High Quality.

Over 5,000 Victor Gas Masks in Service

Full Line Fire Dept. Supplies and Equipment.

New 43 Edition Catalog on Request

The Woodhouse Mfg. Co., Inc.

35 Warren St., New York

D. A. Woodhouse, Pres. and Gen. Mgr. — George J. Kuss, Vice-Pres. and Treas.

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FIRE BOAT EQUIPMENT

Invincible and Callahan Nozzles

Fire Department Supplies

are in use throughout the country and giving unsurpassed service.

Every fire official should be fully acquainted with Morse equipment and have our catalog and other descriptive literature on file for ready reference whenever considering the purchase of new equipment.

You will find that it pays.

Write for Catalog

Andrew J. Morse & Son, Inc.

221 High St. Established 1837 **Boston, Mass.**

The STOUGHTON

Community Fire Fighter is Designed Especially for Small Towns

Fire apparatus for volunteer and small town fire departments must be designed, built and equipped to meet particular requirements. It must be a combination of several distinct types built for city use. It must be complete in every detail.

The Stoughton, the *Original Community Fire Fighter*, is designed to meet these requirements and made in three sizes,—300—350 and 500 gallon capacities. Each model and every piece of apparatus guaranteed to pass the National Board of Fire Underwriters' twelve-hour pumping tests.

May We Send Complete Information?

STOUGHTON WAGON COMPANY

FIRE EQUIPMENT DIVISION, STOUGHTON, WIS.

STOUGHTON FIRE APPARATUS CO., 230 W. 57th St., New York City, Eastern Representatives

Attractive Dealer Propositions

Good territory still open to men experienced in selling fire apparatus

New Models — All sizes to 1000 gallons. All powerful 6 cylinder Motors — Pumpers, Ladder Trucks, Combinations.

Kenosha Fire Engine and Truck Co.

Kenosha, Wis.

"Pirsch" Builds Complete Line of Motor Apparatus

Let Us Submit Bids on Your New Apparatus

Catalogue No. 16 Now Ready! Send for it.

PETER PIRSCH & SONS CO.,

Since 1857

Kenosha, Wisc.

C. G. BRAXMAR CO.

242 W. 55th ST., New York City

Since 1879

BRAXMAR BADGES have been recognized as standard.

Illustrated Catalog gladly sent on request.

BADGES

No. 863F

The "Corey" Fire Hydrant of the improved Rensselaer type is the easiest to operate of any on the market.

Ask for prices and details

FILL IN AND MAIL TO

RENSSELAER VALVE CO., Troy, N. Y.
Send me Hydrant Book, No. 9.

Name .....

Street ..... City .....

HAHN

Motor Fire Apparatus

Write for literature and prices on our 250, 350, 500 and 750-gallon triple combinations, chemical and hose combinations and city service trucks.

Hahn Motor Truck Co.,

Hamburg, Pa.

OF INTEREST TO VOLUNTEER FIRE DEPARTMENTS

Volunteer Firemen Protected by Compensation Law and Accident Insurance

It has been generally considered that volunteer firemen were under the provisions of the Workman's Compensation Law, and one of the liability insurance companies agreed and did write some compensation insurance on volunteer firemen, but it is a question whether such policies are of any value.

A city or town is not liable for damages for injuries to volunteer firemen, according to American Municipalities, so it would seem that members of volunteer fire companies must carry their own risks in protecting the property from fire. This is hardly fair to the firemen when they usually act as volunteer firemen with little or no compensation.

Rulings have recently been made by the Industrial Commissioner and the Attorney General.

Industrial Commissioner

"This department has uniformly held that members of a voluntary fire company are not entitled to benefits under the Workmen's Compensation statute in case of personal injury in this employment. There seems to be good and sufficient reason for this holding which is common throughout all compensation jurisdiction.

"In the first place, there is no contract of employment between the city and the fireman, that is to say, the latter is not bound to the former in any special application to service. He may leave town at any time and remain away as long as he pleases. He is in the entire control of his own time, and subject to a very limited direction on the part of the officers of the town. Then, compensation payment is based upon loss of earnings in any particular employment in which injury is sustained. The voluntary fireman, working without compensation or for a mere nominal payment in case of fire, does not qualify under this requirement."

Attorney General

"You have requested the opinion of this department as to whether a volunteer fireman comes within the provisions of the Workmen's Compensation Act.

"Paragraph 2 of section 1361 provides as follows:

" 'This chapter (Workmen's Compensation) shall not apply to:

1.

2. Persons whose employment is of a casual nature.

3.

4.

"You will note that under this section, the act is intended to embrace persons who are in the constant employ of the person whom they seek to hold liable, and whose employment is of a continuous nature.

"In case of a volunteer fire department, the employment is indeed uncertain, depending entirely upon the contingency of a fire. It might well be that in some cases the volunteer firemen would not be called upon for a period of over one year. The only instance in which the members of the volunteer department are called upon to serve the city is in case of fire. Clearly, therefore, such employment is casual in the sense that it is irregular and depends entirely upon a contingency.

"There is a further reason for holding that the members of a volunteer department do not come within the provision of the Workmen's Compensation Act, Section 1390 provides as follows:

" 'In all cases where an employee receives a personal injury for which compensation other than for medical, surgical, and hospital services and burial expenses, is payable, such compensation shall be upon the basis of sixty per cent per week for the average weekly earnings but not to exceed fifteen dollars nor less than six dollars per week, except if at the time of his injury his earnings are less than six dollars per week, then he shall receive in weekly payments a sum equal to the full amount of his weekly earnings.'

"You will note that the very basis of compensation paid under the act is derived from an estimate of the weekly earnings of the injured prior to the disability. In the case of volunteer firemen no such weekly earnings exists. In many instances these firemen are volunteers in a strict sense of the word and receive no compensation. In some cities they receive a small compensation for each fire, but in practically no instances are the members of a volunteer fire department paid a weekly or annual wage. Therefore, the compensation to be paid could not be determined or computed under section 1390, as above set forth. We are clearly of the opinion that the Workmen's Compensation Act was not intended to include persons within the type of employment of volunteer firemen. The Act is so worded as to make their inclusion therein a practical impossibility, as you will see from the discussion of this section, just referred to, and we are, therefore, of the opinion that they do not come within the provisions of the Act, and therefore, would not be entitled to compensation thereunder."

Accident Insurance

About the only protection that can be given members of volunteer fire departments is accident insurance and this will probably give the members the protection they most desire. One of the largest insurance companies in the state has a policy covering bodily injuries sustained while actually engaged in performing the duties of a volunteer fireman, or while going to or coming from a fire. For a premium of five dollars per man this company will issue a policy giving $500 indemnity in case of death and $100 a month in case of disability caused by accident. The volunteer fireman should have some protection and this is about the best, and in fact the only protection that they can be given at this time. If you are interested in securing more information in regard to the policy, write the secretary of the league, and he will give you full particulars.

Town Sends Department to Convention

With the assistance of citizens of the town, the city manager of Bryan, Tex., raised a fund to defray all the expenses of the volunteer fire department of that city to the annual state convention. A means used to raise this amount was the selection of the queen at a carnival staged by local talent, and the holding of the Queen's Ball. J. Bryan Miller, city manager, will be pleased to tell others how they did it.

Ford Buys Old Apparatus

Antique fire apparatus consisting of three hand tubs, a ladder truck, and a hand drawn hose reel have been added to the evergrowing collection of early American exhibits being assembled by Henry Ford, Detroit automobile manufacturer.

The "Niagara," the oldest of hand tubs, was purchased by the town of Plymouth in 1787. It was called a bucket engine and in operation it was placed next to a well or pond. Water was poured into the device by buckets and then pumped onto the fire. The "Fountain," also a bucket engine, was purchased in 1801, and in 1821, the "Torrent," the first of the suction machines, was purchased.

As many of the old time machines were superceeded by those of more modern design, the antiques were placed in a barn. In the meatime, the machines were stripped by vandals of all the brass trimmings, and the buckets became covered with rust. The exhibits were sent to Boston, Mass., for refinishing.

Fire Apparatus on Gramm & Kincaid Chassis.

A 500-gallon pumper of the triple combination type has been mounted on a Gramm & Kincaid chassis. Several pieces of fire apparatus of this type have already been manufactured.

PROPOSED IMPROVEMENTS

Carroll, Carroll Co., Iowa—Planning to purchase a piece of apparatus for fire department.

Topeka, Shawnee Co., Kansas—New fire station to be erected.

Madison, Dane Co., Wis.—It was voted by the Emergency Board to set aside $40,000 for purchase of fire apparatus for fighting forest fires.

Brooklyn, Kings Co., N. Y.—Three new fire stations to be erected here.

Pelham, Westchester Co., N. Y.—At special election held recently it was voted in favor of a $100,000 bond issue for erection of fire headquarters.

Central Bridge, Schoharie Co., N. Y.—Town to purchase an electric siren.

Gibbon, Buffalo Co., Nebr.—Fire company to purchase fire apparatus.

Laconia, Belknap Co., N. H.—Mayor George E. Stevens advocates the erection of a fire station.

Mauch Chunk, Carbon Co., Penn.—Marion Hose Co. raising funds for purchase of pumper with chemical tanks.

Triumph, Martin Co., Minn.—Fire company to be formed to protect this village and Monterey and farmers near by.

Yuba City, Sutter Co., Calif.—Fire Chief James Long recommended to City Trustees the purchase of new fire equipment.

Oakland, Alameda Co., Calif.—Beulah Summit District presented resolution to Council for a fire station and equipment.

Ventura, Ventura Co., Calif.—Fire Chief Johnson requested that $41,500 be included in the budget for coming fiscal year for erection of fire house, apparatus, fire alarm system and a supply of new hose.

Sonora, Tuolumne Co., Calif.—Board of Supervisors considering the purchase of a piece of apparatus for use in field fires.

Jefferson City, Cole Co., Mo.—City appropriated $10,000 for purchase of new fire equipment.

Albany, (Mail Berkeley) Alameda Co., Cal.—Considering purchase of siren for fire apparatus.

Proposal for Combination Chemical Hose and Pumping Engine

Village of South Orange, N. J.
Bids opened July 12, 1926

Sealed bids will be received by the Committee on Fire of the Board of Trustees of The Village of South Orange, N. J., until eight o'clock p. m., (Daylight saving time) on Monday, July 12, 1926, at the Village Hall, South Orange Avenue and Scotland Road, South Orange, N. J., for furnishing one (1) motor propelled triple combination chemical hose and pumping engine, 750 gallons capacity.

A certified check for Two hundred fifty dollars ($250.00) payable to The Village of South Orange must accompany each bid as a guarantee of good faith in bidding.

Specifications may be seen at the office of the Village Clerk, South Orange, N. J.

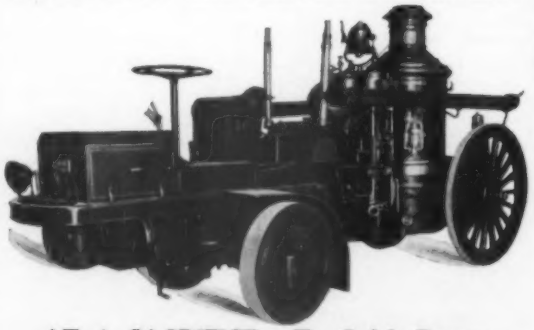
The Committee reserves the right to reject any or all bids if they deem it for the best interest of The Village of South Orange so to do.

All bids shall be addressed to Louis F. Bird, Chairman of the Fire Committee, Village Hall, South Orange, N. J. and marked "PROPOSAL FOR COMBINATION CHEMICAL HOSE AND PUMPING ENGINE."

LOUIS F. BIRD,
Chairman Fire Committee.

7-10.

FOR SALE
2 CHRISTIE TRACTORS
WITH
AMERICAN-LAFRANCE STEAMERS



AT A SACRIFICE—To Quick Buyers

These two engines were in use by the NEW YORK FIRE DEPT. They are in perfect working condition and equal to new and will be sold at a ridiculously low figure as they must be disposed of at once, regardless of price.

For particulars and specifications see

R. GREENBERG
524 E. 5th St. New York City
Tel. Orchard 1089

CONVENTION DATES

July 13-15—MICHIGAN STATE FIREMEN'S ASSOCIATION. 52nd Annual Convention, Caro, Mich. Secretary, H. L. Williams, Ludington, Mich.

July 14—DELAWARE STATE VOLUNTEER FIREMEN'S ASSOCIATION. 6th Annual Convention, New Castle, New Castle County, Del. Secretary, Sam H. Carson, Dover. President, Geo. Clifton Maull, Lewes.

July 21-22—CENTRAL NEW YORK VOLUNTEER FIREMEN'S ASSOCIATION. 33d Annual Convention and Parade, Endicott, N. Y. Secretary, Millwood Fitch, Moravia, N. Y. Secretary, Local Committee, Floyd L. Jackson, Endicott.

July 26-28—MONTANA STATE FIREMEN'S ASSOCIATION. 35th Annual Convention, Big Timber, Mont. Secretary, D. E. Moser, Bozeman, Mont.

July 27-28—WESTERN NEW YORK VOLUNTEER FIREMEN'S Association. Annual Convention, Kenmore, N. Y. Secretary, Henry A. Clark, 21 Porter Ave., Batavia, N. Y.

July 30-31—CHENANGO COUNTY FIREMEN'S ASSOCIATION. 4th Annual Convention, Sherburne, N. Y. Secretary, David Allen, Sherburne.

Aug.—CENTRAL PENNSYLVANIA VOLUNTEER FIREMEN'S ASSOCIATION. Annual Convention, Tyrone, Pa.

Aug. 2-4—COLORADO STATE FIREMEN'S ASSOCIATION 10th Annual Convention, Denver, Col. Secretary, Clinton Turnbull, Fire Department, 303 Jacobsen Bldg., Denver, Col.

Aug. 4—ROCKLAND COUNTY VOLUNTEER FIREMEN'S ASSOCIATION. 14th Annual Convention and Parade, Suffern, N. Y.

Aug. 9-14—WESTERN PENNSYLVANIA FIREMEN'S ASSOCIATION. 33rd Annual Convention, New Kensington, Pa. Secretary Convention Committee, R. A. Kanouff, New Kensington.

Aug. 16-18—UTAH STATE FIREMEN'S ASSOCIATION. Annual Convention, and Tournament, Park City, Utah. Secretary, Fred Peters, Murray, Utah.

Aug. 16-19—FIREMEN'S ASSOCIATION OF THE STATE OF NEW YORK. 54th Annual Convention, Alexandria Bay, N. Y. Secretary, Fred A. Davis, Fort Edward, N. Y.; Treasurer, William H. Swartout, 115 Main Street, Ossining, N. Y.

Aug. 16-21—NORTH CAROLINA STATE FIREMEN'S ASSOCIATION. 39th Annual Convention, Atlantic Hotel, Morehead City, N. C. President, A. B. Horney, High Point; Secretary, John L. Miller, Concord.

Aug. 19-20—CONNECTICUT STATE FIREMEN'S ASSOCIATION. 43rd Annual Convention, Elks' Home, Washington St., New London, Conn. Secretary, D. W. Harford, South Norwalk.

Aug. 19-21—CALIFORNIA STATE FIREMEN'S ASSOCIATION. Annual Convention, Long Beach, Cal. Secretary, H. E. Strasser, 1171 10th St., San Diego, Cal.
Department, 303 Jacobson Bldg., Denver, Col.

Aug. 24-27—DOMINION ASSOCIATION OF FIRE CHIEFS. 18th Annual Convention, Windsor, Ont. Secretary, Chief James Armstrong, Kingston, Ont.

Sept. 13-15—KENTUCKY FIRE CHIEFS' ASSOCIATION. Annual Convention, Fire Department Drill School, Louisville, Ky. Secretary, Captain S. G. Render, Fire Department Instructor, 303 Speed Building, Louisville. For exhibits at State Fair, Sept. 13-18, address State Department of Fire Prevention and Rates, Frankfort, Ky.

Sept. 14-15—IOWA STATE FIREMEN'S ASSOCIATION. 49th Annual Convention, Manning, Ia. Secretary, E. E. Parsons, Marion.

Sept. 14-16—MASSACHUSETTS STATE FIREMEN'S ASSOCIATION. 47th Annual Convention, Fall River, Mass. Secretary, Daniel J. Looney, 1046 Old South Building, Boston, Mass.

Sept. 21-24—INTERNATIONAL ASSOCIATION OF MUNICIPAL ELECTRICIANS. 30th Annual Convention, Battery Park Hotel, Ashville, N. C. Secretary, William R. Arbuckle, Supt. Fire Alarm, Bayonne, N. J. Chairman Exhibit Committee, Daniel J. Morgan, Sales Engr., Hazard Mfg. Co., Wilkes-Barre, Pa.

Sept. 22-23—INDIANA STATE FIREMEN'S ASSOCIATION. 9th Annual Convention, Marion, Ind. Secretary, Frank H. Miller, Fire Headquarters, Terre Haute, Ind.

Sept. 24—NEW JERSEY FIRE CHIEFS' ASSOCIATION. Annual Convention, Atlantic City, N. J. Secretary, Fred A. Trowbridge, 17 South Street, Morristown, N. J.

Sept. 24-25—NEW JERSEY STATE FIREMEN'S ASSOCIATION. 49th Annual Convention, Atlantic City, N. J. Headquarters, Executive Committee, Hotel Dennis. Secretary, William Exall, Chamber of Commerce Building, Newark, N. J.

Sept. 27-29—ARKANSAS STATE FIREMEN'S ASSOCIATION. Annual Convention, Jonesboro, Ark. Date of meeting tentative. H. S. Compton, secretary. Central Fire Station, Little Rock, Ark.

Sept. 27-29—KANSAS STATE FIRE CHIEFS' AND STATE FIREMEN'S ASSOCIATIONS. 10th and 39th Annual Conventions, respectively, Manhattan, Kan. Secretary, Chief K. D. Doyle, Wamego, Kan.

Oct. 4-9—INTERNATIONAL ASSOCIATION OF FIRE FIGHTERS. Annual Convention, Hotel Adelphia, Philadelphia, Pa. Secretary-Treasurer, Geo. J. Richardson, Rooms 105-6, A. F. of L. Bldg., Washington, D. C.

Oct. 5-7—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. Annual Convention, Philadelphia, Pa. Secretary, Charles F. Clark, 411 Bellevue Avenue, Wayne, Pa.

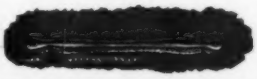
Oct. 12-15—PACIFIC COAST ASSOCIATION OF FIRE CHIEFS. 33rd Annual Convention, Fresno, Cal. Secretary, Chief Jay W. Stevens, 1014 Merchants Exchange Building, San Francisco, Cal.

Oct. 19-22—INTERNATIONAL ASSOCIATION OF FIRE ENGINEERS. 54th Annual Convention, Hotel Roosevelt, New Orleans, La. Exhibits at U. S. Army Base Bldg., Dauphine and Poland Sts. Secretary, Chief James J. Mulcahy, Yonkers, N. Y. Chairman Exhibit Committee, Chief Wm. F. Daley, Brockton, Mass.

Oct. 20—OFFICERS' ASSO. FIRE PATROLS, SALVAGE CORPS AND PROTECTIVE DEPTS. OF U. S. AND CANADA. Meeting at New Orleans in connection with I. A. F. E. Convention. Secretary, John Ashmead, 76 William St., New York City.

BI-LATERAL FIRE HOSE

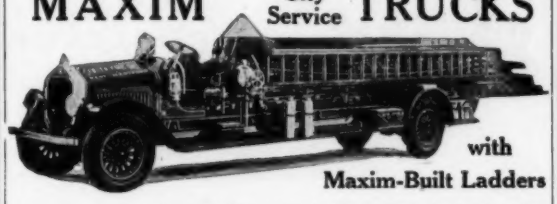
THE BI-LATERAL FIRE HOSE CO.
230 West Randolph St., Chicago, Ill.



If you continue to purchase Bi-Lateral Fire Hose for your department you can soon cut your hose expense to less than half of what you have been paying for the old construction. If you question this statement let us cite you to cities using our product exclusively that frankly tell us they are not spending half for fire hose that they were compelled to spend in the previous ten years.

There is a reason for this and we would like to show you why this is true.

MAXIM City Service TRUCKS



with Maxim-Built Ladders

are unsurpassed for design, completeness of equipment and sturdiness of construction. Like all Maxim apparatus and equipment, they are built "Just a Little Better All Around."

MAXIM MOTOR COMPANY, Middleboro, Mass.
Metropolitan Sales Agents:
The Woodhouse Manufacturing Co., 35 Warren St., New York

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have all the good points.

- *The most convenient size—12 x 18 feet*
- *The right weight—About 38 pounds*
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- *An absolutely waterproof double coating of a high grade, long life, rubber compound*

Many large Protective Departments use them

Send for our circular

CLIFTON MFG. CO.
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For Personal Safety Use

DONTFEAR

Smoke and Fume Respirator

Equipped with the "Dontfear" Respirator and airtight goggles you can work in front of the wind without discomfort. "Dontfear" assures positive protection against all smoke and smoke gases.

No Sponge. Price $5. With Airtight Goggles $5.60

Gibbs-Wahlert Mask Co.
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RED ARROW SIREN

Siren with Storm Hood

1. Double-tone, and of greatest carrying power.
2. Ball bearings throughout.
3. Accurately machined and balanced.

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Sauk City, Wis.

In a HENDERSON Uniform

you always get correct tailoring, dependable quality, reliable workmanship, at the lowest prices consistent with values.

Catalogue illustrating the popular Styles of Firemen's Service Parade Uniforms or for prize contests, as well as Shirts, Belts, Hats, Caps, Badges, Banners, &c., mailed on request.

Write giving Number of Outfits desired and color Cloth preferred.

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Waterous Dependable

ROTARY PUMPS FIRE HYDRANTS

Agencies in Principal Cities

Send for our Complete Catalog

WATEROUS FIRE ENGINE WORKS
INCORPORATED
St. Paul, Minnesota

EDDY Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience go into their manufacture and they embody valuable and exclusive features.

Write for the Facts

EDDY VALVE CO.
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All Types and Sizes

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Builders of Quality Products for 15 Years

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LadderS

Ladders for use in saving life and property must be dependable. We offer Reliability and Safety in our Ladders which is the result of years of experience and study. Carefully selected lumber and scientific construction are essential in making good Ladders.

Ladders rendered unsafe from service and age should be replaced.

We also manufacture Cellar Pipes, Door Openers, Tin Roof Cutters, Play Pipes, etc.

When interested, write us

COMBINATION LADDER CO., INC.

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JACOB REED'S SONS

Founded 1824 by Jacob Reed

FIREMEN'S UNIFORMS

Thoroughly tailored of especially selected fabrics. Uniforms that look well, wear well and that will give entirely satisfactory service.

Reed's Uniforms are most economical because they represent full value for the amount expended.

Write for catalog and prices.

1424-1426 Chestnut St., Philadelphia, Pa.

Cloth Uniform Caps for Firemen

Made of high quality blue uniform cloth, guaranteed not to fade. Cut on the New York Fire Dept. regulation pattern. Price $2.25, Postage extra. Other grades, $1.75 and up.

GEORGE BRUNSSEN COMPANY

151 Greene St., New York

LARKIN Shut-off Nozzles

Over 2000 Fire Departments have 15,000 Larkin Shut-off Nozzles in service. They have a successful record that is not exceeded by any article used in the fire service. Specify and insist upon them in buying new apparatus.

Write for catalog

The LARKIN Mfg. Co.

Dayton, Ohio

High Grade Fire Dept. Supplies of All Kinds

The "Fyr-Foe" Twin Pumper

for Fords

The "Fyr-Foe Auto-Powered" Pumper makes use of the 15 brake horse-power in a Ford car or truck at a price within range of the smallest communities, providing adequate fire protection at a fraction of the cost of big apparatus.

Send for complete details.

Jaeger Portable Power Corp.

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Quick-Acting Reliable

Anderson-Hale Improved

FIRE STATION DOOR OPENERS

Over 1,300 sets of Anderson-Hale Fire Station Door Openers are in successful use. They provide simple, durable, quick-acting doors that open inward. No obstruction to sidewalk. Attractive in appearance, cannot sag, closes tight, excludes cold, gives clear opening. Opens from driver's seat or from floor. Many repeat orders from users.

Write for complete information.

The Anderson Coupling & Fire Supply Co.

Mfrs. Motor Fire Equipment and Fire Supplies

Kansas City, Kansas

A Word to Our Readers:

DO you ever stop to think that every advertiser in these pages offers either a product or a service that has certain unique advantages which he believes will interest and be of value to you? Otherwise it wouldn't be worth his while to advertise.

Almost every page contains the offer of some product or service that you would find of value in your department. It will pay you to read the advertising pages as carefully as you do the editorial.

"The wise man is he who is always willing to learn." It will pay you to read the advertising pages carefully. THE PUBLISHERS.

FALSE ALARMS

"You can take your finger off that leak in the pipe now, father."

"Thank heaven! Is the plumber here at last?"

"No—the house is on fire!"

—*Judge.*

LOOKING AHEAD

The following is told of one of the firemen in Milwaukee who was contemplating a most serious step. Not wishing to be jollied from the other members of the company, he did not appeal to their abundant store of information for advice on the subject.

He went to the jewelry store where he had purchased the ring, and told the jeweler that he wanted the following inscription engraved on it, "George, to his dearest Alice."

"Is the lady, your sister?"

"No," replied the bashful fireman, "she is the one to whom I am engaged."

"In that case," replied the jeweler, "I wouldn't have that engraved in the ring. Should Alice change her mind, you can't use the ring again. I would suggest 'George, to his first and only love.' With this phrase the ring can be used at least a half dozen times."

FIRE ! ! !

("In an emergency, just say to the operator: 'I want to report a fire'."—*Ye olde telephone bookke.*)

So I did.

"I want to report a fire," I said.

"Aren't you just the luckiest thing in the world!" she gushed. "Jean—she's my married sister—she married a fellow named Osborn—well, anyway, her and I live together and we haven't been able to get a draft in the flue—"

"Listen, sister," interrupted, "far be it from me to ruin the autobiography, but *I want to report a fire.* In other words, *my house is on fire.*"

"That's funny," she said. "Why?"

"I don't know why," I replied. "It just is. Why does a house get on fire? Why does *your* house get on fire?"

"It hardly ever does," she confided. "Of course, there was that night that Joe was out and dropped a cigarette on the day-bed—you don't know Joe, do you?"

"No," I said, dodging a couple of falling embers.

"I used to think he was perfectly swell," she said. "That was before I found out he was running around with that little hussy from Brooklyn. *Some* people think she's good-looking, but—say, what did you call up for, anyway?"

"I want to report a fire," I retorted feebly.

"Well," she said, "I don't believe it will do any good. *I* sent a Most Embarrassing Moment in to the paper once—it was about the time I put my elbow in the salad—and they didn't even give me a dollar for it. And it was a lot better than some things you see in print. Well, hold the line and I'll get you the Weather Bureau."

Well, anyway, the radio was destroyed in the blaze. Every cloud has its s. l. —*Life.*

After searching desperately all night for a man reported missing when a Hartford building collapsed, one of the rescue party learned that he himself was the supposed victim.

EXPLAINED

It was a court of inquiry trying to ascertain the reason for a domestic setting fire to the home of her employer.

"Why did you burn you employer's house down?"

"I wanted to see my sweetheart in a hurry, and he being a fireman . . ."

WHY SHOULD HE!

While the self-elected chef of one of the outlying companies in an Oklahoma town was preparing the meal for the fire company, a wind storm of such violence came up that one of the men who was lounging on the porch rushed to the kitchen for protection.

Feeling somewhat secure from the storm, he looked around and noticed that the cover was off the soup pot.

"Hey, there you," he shouted to his comrade, "the cover should be put on so that the dust will not get into the soup."

"That's none of your affair. You're working for the city."

"Yes," replied the fireman as he sauntered out, "but I am not supposed to eat it."

A SOFT ANSWER

Those who are planning to visit Havana on the return from the I. A. F. E. convention at New Orleans this year, will do well to bear in mind the story told about one of the delegation who made the trip on a previous convention trip there.

The boat was rolling incessantly, and as is usually the case, one of the passengers, a salesman of fire apparatus, was digustingly healthy.

Leaning over to his neighbor who was posed at the rail and whose complexion had assumed a pale-green hue, he remarked, "Sick, eh?"

The sick one regarded his neighbor scornfully and replied somewhat weakly, "Sick nothing! I'm just hanging over the rail to see if the captain cranks the boat like you do your fire trucks."

TOO REAL

The fire department officer was supervising the morning calisthenics at the station.

"I want every man to lie on his back, put his legs in the air, and then move them as if he were riding a bicycle," he explained. "Now begin!"

After a short effort one of the men stopped.

"Why have you stopped, Cassidy?" asked the officer.

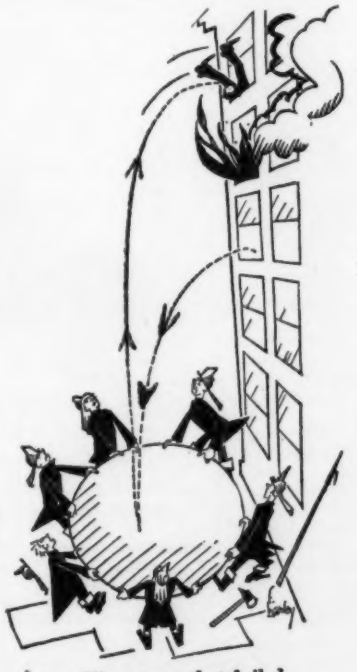
"If yez plaze, sor," was the reply, "Oim coasting."

WHO'S TO BLAME?

Many gentle hands were lifting Patrick from the wreckage of the fire apparatus which he had been driving, and which was just struck by a fast passenger train at the railroad crossing.

"How did it happen?" asked one of the firemen who had been hanging from the rear step of the pumper.

"Begorra," fumed Pat, "'tis more than I can understand. Ye'd have thought that the engineer of the train could have seen me coming in broad daylight."



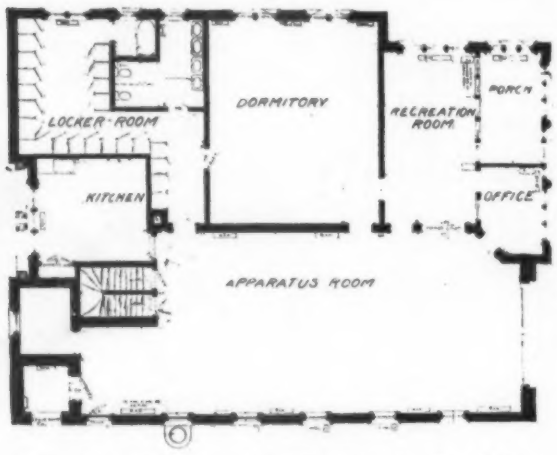
The rescue that failed.

—*Judge.*

Milwaukee Bungalow Fire Station

Under the direction of Chief Peter Steinkellner, a bungalow type of fire station is being erected in Milwaukee at 47th and Center streets, in conformity with the architecture of the district. It is the policy of the chief to have the new stations harmonize with the buildings in the immediate locality to offset any objections that the people may have to the construction of a fire station in their district.

The apparatus room at the widest point is forty-eight feet long twenty-four feet wide. The walls of this room are lined



Floor plan of the Milwaukee, Wis., Bungalow Fire Station.

with salt glazed brick with cap for part of the way and the balance of the walls and ceilings are of plaster. All radiation is of the hung type with chain operated valves.

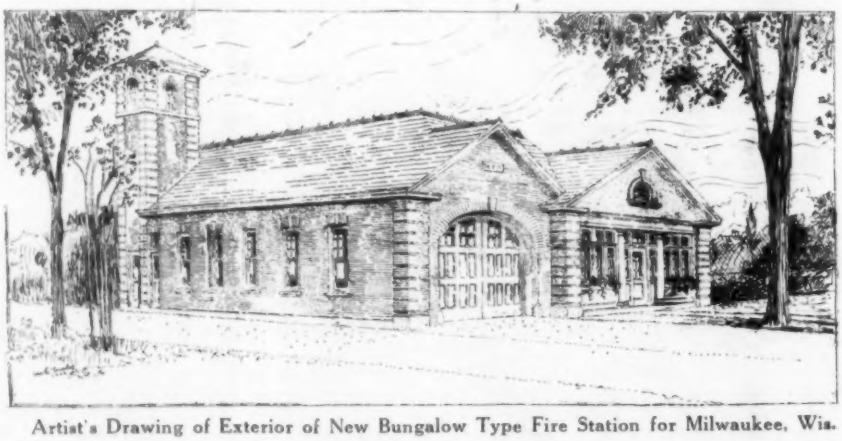
Adjacent to the enclosed porch at the front of the station, is the office. The recreation room is to the rear of the porch. All the rooms with the exception of the apparatus room, and the toilets and bath have maple wood floors on wood sleepers laid on a concrete floor. The apparatus room has a concrete floor and the floors of the toilet and bath are tiled.

A separate room is provided for the storage of chemicals. This has a concrete floor with a drain. It is adjacent to the hose tower.

The kitchen is fifteen by fourteen feet and is equipped with a complete kitchen and dining equipment—cupboard, enameled sink and gas service.

The joker stand is to be of marble and arranged so that the instruments may be read from either the recreation room or the apparatus room side. The captain's room has a view of both the street and the apparatus room thus facilitating supervision of the men.

The roof will have green asbestos shingles and all of the trim is to be in gray stone and buff brick. The building has been designed under the supervision of the bureau of bridges and public buildings of the department of public works.



Artist's Drawing of Exterior of New Bungalow Type Fire Station for Milwaukee, Wis.

Johnstown, N. Y., Fire Chief Resigns—Chief Henry G. Moore, of Johnstown, N. Y., has tendered his resignation as chief after serving as department head since May, 1918.

New Fire Apparatus For Clarinda, Ia.—The delivery of two new Stoughton fire apparatus was expected in time for the Fourth of July celebration in Clarinda, Ia.

Kauauna, Wis., Recommends Pay Increase—A recommendation was made before the city council of Kauauna, Wis., that the pay of the firemen be increased from $100 to $110, and the pay for the captains from $100 to $115. The council also passed legislation in reference to the confiscating of forbidden stocks of fireworks.

"Fireproof" Invites False Sense of Security

(*Continued from page* 663)

lines in all high buildings, therefore, should be determined by periodical tests. As far as this City is concerned, there appears to be no practice of systematically testing the reliability of standpipes after the initial test at the time of their installation. The ordinances simply provide that the responsibility for maintenance rests with the person in charge of the building. The failure of the standpipe to function in this fire, and the inability to use one of the siamese connections in 290-294 Broadway, demonstrates the futility of this character of maintenance. The location of standpipes or portions of them where they will be readily exposed to the heat of the fire, should not be permitted and where such conditions exist, they should be insulated by enclosing the pipes in solid masonry protection. The installation of standpipe systems should be intrusted to none but fully experienced workmen, to avoid as far as possible, such an occurrence as happened in this instance, i. e., the improper assembling of the piping.

"Wired glass windows of proper design are an admirable means of retarding the rapidity with which a fire can spread. Had the windows opening into the light court been wired glass, the fire in all probability would not have entered the floors above the floor where it started. Wired glass windows set in metal frames, beside acting to exclude neighboring fires, often serve to confine a blaze to its starting point and reduces the probability of floor-to-floor communication through the curling upwards of flame shot out from window openings on lower floors. The breaking of the thin glass windows in this case unquestionably added greatly to the spread of fire by overlapping from floor to floor.

"Interior light courts with thin glass windows, built so as to form large flues are very undesirable. They may be likened to unprotected or poorly protected, vertical floor openings. They should wherever possible be eliminated. In any event, the minimum protection should consist of wired glass in metal frames."

Chief Scott Presented with Check

Chief Scott of Los Angeles, Cal., was presented with a check of $10,000 by his friends in and outside of the fire department, for the construction of a home. According to Jay W. Stevens, fire marshal, this is the first time to his knowledge that a chief was presented with a home.

The presentation was made by Maurice H. De Mond, president of the Breakfast Club, at the fire department headquarters, in the presence of about nine hundred members of the department. Chief Scott, in responding to the presentation speech, said in a voice that expressed very much feeling, that he appreciated the gift as he had never been able to own a home before.

Three Escape Blast Wrecked Home

Three residents of a home in Canton, Ohio, miraculously escaped death as their home was wrecked by escaping gas.

It is uncertain whether the explosion and the fire that followed was caused by workmen turning on the gas in a main which had been shut off while excavations were being made, or if it was due to other causes.

The owner of the home was picked up in a driveway where he was blown from the second floor of the building. His wife and a twelve year old daughter was removed from the ruins later. The bath room floor assumed a position of about forty-five degrees.

Beat the Fire to it with an ERICK ELECTRIC SIREN

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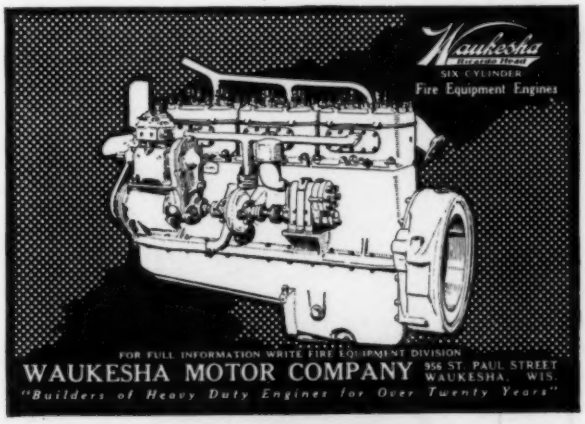

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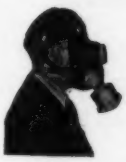

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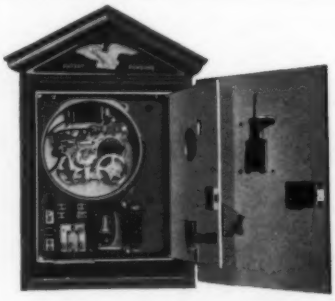

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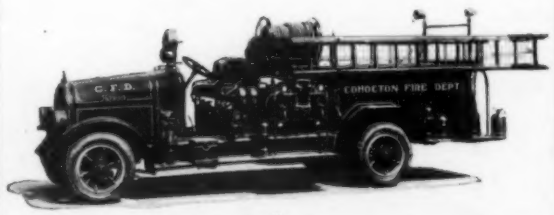

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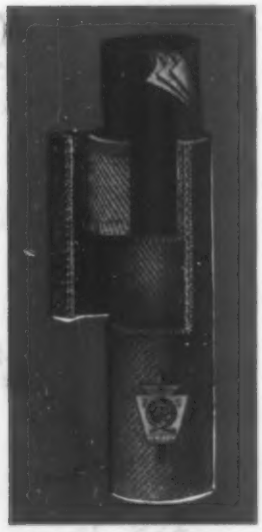

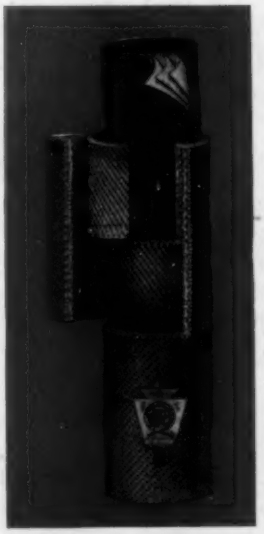

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